APPENDIX D

Part 4 of 22

Wetland Delineation Data Sheets and Site Photographs

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	nland	Sampling Date: <u>2019-10-11</u>
Applicant/Owner: Enbridge			
Investigator(s): MAL/ARK	Section, Township	o, Range: 046N-004W-	05
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests Lat:			
Soil Map Unit Name: Sanborg-Badriver com			
Are climatic / hydrologic conditions on the site typical for			
Are Vegetation, Soil, or Hydrology			
Are Vegetation, Soil, or Hydrology	naturally problematic?	(If needed, explain any answe	ers in Remarks.)
SUMMARY OF FINDINGS - Attach site m	nap showing sampling poi	nt locations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes✓	No Is the Sam	pled Area	
	110	/etland? Yes <u>√</u>	No
		onal Wetland Site ID:	
Remarks: (Explain alternative procedures here or in	a separate report.)	<u> </u>	
The feature is associated with an int	ermittent stream to the	northwest.	
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indic	ators (minimum of two required)
Primary Indicators (minimum of one is required; check	k all that apply)	· · · · · · · · · · · · · · · · · · ·	
	Water-Stained Leaves (B9)	Drainage Pa	
	Aquatic Fauna (B13)	Moss Trim L	
	Marl Deposits (B15)	Dry-Season	Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Bui	rrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living	Roots (C3) Saturation V	/isible on Aerial Imagery (C9)
1 · · · · · —	Presence of Reduced Iron (C4)		Stressed Plants (D1)
	Recent Iron Reduction in Tilled Sc		
	Thin Muck Surface (C7)	Shallow Aqu	
	Other (Explain in Remarks)		raphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-Neutra	Il Test (D5)
Field Observations:	Death (backers)		
	Depth (inches):		
	Depth (inches):	Wetlend Hydrology Droce	nt? Yes <u>√</u> No
(includes capillary fringe)	Depth (inches).	wetiand hydrology Prese	nt? res / No
Describe Recorded Data (stream gauge, monitoring v	vell, aerial photos, previous inspec	tions), if available:	
Remarks:			
The depression is seasonally satura	ted and may be artificia	ally drained.	
	-		

VEGETATION – Use scientific names of plants.

VEGETATION – Use scientific names of plants				Sampling Point: wase080s_w1			
Tree Stratum (Plot size:30')	Absolute % Cover	Dominan Species?	t Indicator Status	Dominance Test worksheet:			
1. Populus tremuloides	20.0	Υ	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: (A)			
2. Abies balsamea							
3				Total Number of Dominant Species Across All Strata:7 (B)			
4.							
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 85.71 (A/B)			
6.							
				Prevalence Index worksheet:			
7		= Total Co		Total % Cover of: Multiply by:			
Conline (Church Charture (Diet sine) 15'		= Total Co	ivei	OBL species x 1 = 20 FACW species 85 x 2 = 170			
Sapling/Shrub Stratum (Plot size: 15')	00.0	V	E A O \ A /	FAC species 32 x 3 = 96			
1. Alnus incana				FACU species x 4 = 68			
2. <u>Salix petiolaris</u>				UPL species 0 x 5 = 0			
3				Column Totals: <u>154</u> (A) <u>354</u> (B)			
4				Dravalance Index D/A 2.20			
5				Prevalence Index = B/A = 2.30			
6				Hydrophytic Vegetation Indicators:			
7				1 - Rapid Test for Hydrophytic Vegetation			
	35	= Total Co	ver	2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹			
Herb Stratum (Plot size:)				4 - Morphological Adaptations ¹ (Provide supporting			
1. <u>Phalaris arundinacea</u>	40.0	Y	FACW	data in Remarks or on a separate sheet)			
2. <u>Scirpus cyperinus</u>	15.0	Y	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)			
3. <u>Solidago altissima</u>	_15.0	Y	FACU	1			
4. Agrostis gigantea			FACW	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.			
5. <u>Calamagrostis canadensis</u>		Ν	OBL	Definitions of Vegetation Strata:			
6. Symphyotrichum lateriflorum		N	FAC				
7. <u>Carex gracillima</u>		N	FACU	Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
8. <u>Rubus idaeus</u>							
9.				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.			
10				Herb – All herbaceous (non-woody) plants, regardless			
11.				of size, and woody plants less than 3.28 ft tall.			
12.				Woody vines – All woody vines greater than 3.28 ft in			
12.		= Total Co		height.			
Manda Vina Charles (Blat size)	34.0	= Total Co	ivei				
Woody Vine Stratum (Plot size: 30')							
1							
2							
3				Hydrophytic Vegetation			
4				Present? Yes _ ✓ No			
		= Total Co	ver				
Remarks: (Include photo numbers here or on a separate Tree cover is patchy throughout the feat graminoids.	ature. G	round la	ayer den	se with disturbance-tolerant			

SOIL Sampling Point: wase080s_w1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth		Matrix				x Features			_	
(inches)	Color (r		<u>%</u>	Color (n		<u>%</u> 15	Type ¹	Loc ²	Texture	Remarks Prominent radov
0-6	7.5YR			2.5YR				_M_		Prominent redox
6-10	2.5YR		_60	<u>7.5YR</u>	3/4	<u>40</u>	<u> </u>	_M_	C	Prominent redox
<u>10-18</u>	2.5YR	4/8	_90_	<u>7.5YR</u>	4/3	10	C	_M_	C	Prominent redox
¹ Type: C=C		n, D=Depl	etion, RM	=Reduced N	Matrix, MS	S=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B) Loamy Mucky Mineral (F1) (LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B)							_RA 149B) , L)	Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Dark Surface (S7) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)		
Restrictive				eliand nydro	logy mus	t be prese	ni, unies:	s disturbed (or problematio	ы. -
Туре:										
Depth (in	iches):								Hydric Soil	Present? Yes No
Remarks: Clay soil	s with re	edox th	nrough	out. Upp	er lay	er mee	ts Red	l Parent	Material	indicator.



wase080s_w1_E



wase080s_w1_S

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ashl	and	Sampling Date: 2019-10-11
Applicant/Owner: Enbridge			
Investigator(s): ARK/MAL			
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests Lat: 46			
Soil Map Unit Name: Sanborg-Badriver complex			
Are climatic / hydrologic conditions on the site typical for this			
Are Vegetation, Soil, or Hydrology si			
Are Vegetation, Soil, or Hydrology no			
SUMMARY OF FINDINGS – Attach site map s	showing sampling point	t locations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes ✓ No.	Is the Sampl	ed Area	
Hydric Soil Present? Yes ✓ No		land? Yes <u>√</u>	No
Wetland Hydrology Present? Yes ✓ No		al Wetland Site ID:	
Remarks: (Explain alternative procedures here or in a sep Disturbed, shrub-dominated wetland. So		v field and unland	forcet
Disturbed, siliub-dominated wetland. St	arrounding land is ria	y neid and upland	iorest.
HYDROLOGY			
Wetland Hydrology Indicators:		-	tors (minimum of two required)
Primary Indicators (minimum of one is required; check all the			
	er-Stained Leaves (B9)	Drainage Pat	
	atic Fauna (B13) Deposits (B15)	Moss Trim Li	Water Table (C2)
	ogen Sulfide Odor (C1)	Crayfish Burr	
	ized Rhizospheres on Living Ro		sible on Aerial Imagery (C9)
Drift Deposits (B3) Pres	ence of Reduced Iron (C4)	Stunted or St	tressed Plants (D1)
Algal Mat or Crust (B4) Rece	ent Iron Reduction in Tilled Soils	s (C6) Geomorphic	Position (D2)
	Muck Surface (C7)	Shallow Aqui	
	r (Explain in Remarks)		phic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-Neutral	Test (D5)
Field Observations: Surface Water Present? Yes ✓ No Dep	oth (inches): 3		
	oth (inches):		
		Wetland Hydrology Presen	t? Yes <u>√</u> No
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring well, a	erial photos, previous inspectio	ns), if available:	
Remarks:	of the feature bears	lla ala anno de colonda en	_
Seasonally saturated wetland. Portions	of the feature have d	lischarge nydrology	/.

VEGETATION – Use scientific names of plants.

				Sampling Point: wase080s_w2
Tree Stratum (Plot size: 30')	Absolute % Cover			Dominance Test worksheet:
1		-		Number of Dominant Species That Are OBL, FACW, or FAC:3(A)
2				Total Number of Dominant Species Across All Strata: 3 (B)
4.				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
0 11 (0) 1 0: (7)	0.0	= Total Co	ver	OBL species 39 x 1 = 39 FACW species 104 x 2 = 208
Sapling/Shrub Stratum (Plot size: 15')	00.0		= 4 0 4 4	FAC species x 2 = z 208
1. <u>Alnus incana</u>				FACU species
2				UPL species0 x 5 =0
3				Column Totals: 148 (A) 262 (B)
4				
5				Prevalence Index = B/A =1.77
6				Hydrophytic Vegetation Indicators:
7				
	60			∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size: 5')				3 - Prevalence Index is ≤3.0¹
Phalaris arundinacea	40 O	Υ	FACW	 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
Calamagrostis canadensis	-		OBL	Problematic Hydrophytic Vegetation¹ (Explain)
•		N	FAC	
			OBL	¹ Indicators of hydric soil and wetland hydrology must
4. Glyceria canadensis				be present, unless disturbed or problematic.
5. <u>Geum macrophyllum</u>		N	FACW	Definitions of Vegetation Strata:
6. Persicaria sagittata			OBL	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7. <u>Solidago gigantea</u>	2.0	N	FACW	at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
		= Total Co	ver	height.
Woody Vine Stratum (Plot size:30')		- 10tai 00	• • • • • • • • • • • • • • • • • • • •	
1				
2				
3			· 	Hydrophytic Vegetation
3				Present? Yes ✓ No
4	0.0			116361II: 163 <u>v</u> 140

SOIL Sampling Point: wase080s_w2

Matrix Color (moist)							and about to	e of indicators.)
	%	Color (n		x Features <u>%</u>	Type ¹	Loc ²	Texture	Remarks
10YR 2/1	85	5YR	5/8	<u> 15</u>	C	_M_	C	Prominent redox
10YR 4/1	85	10YR	5/6	_15_	<u>C</u>	_M_	C	Prominent redox
	anlation PM	L-Paduard N	Actrix MG	- Magkada	Sond Cr		21 agatio	n: PL=Pore Lining, M=Matrix.
Concentration, D=De Indicators:	pietion, Riv	i=Reduced i	natrix, ivis	s=iviasked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils³:
ol (A1) Epipedon (A2) Histic (A3) Hen Sulfide (A4) Hed Layers (A5) Hed Below Dark Surfa Dark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) Hod Matrix (S6) Hed Matrix (S6)		MLF Thin D Loamy Loamy Deplet Redox Deplet Redox	RA 149B) ark Surfa Mucky M Gleyed I ed Matrix Dark Su ed Dark S	ce (S9) (L ⁄lineral (F1 Matrix (F2)	RR R, MI) (LRR K	LRA 149B)	Coasi 5 cm Dark i Polyvi Thin I Iron-N Piedn Mesic Red F	Muck (A10) (LRR K, L, MLRA 149B) Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R) Murky Peat or Peat (S3) (LRR K, L, R) Murky Peat or Peat (S8) (LRR K, L, R) Mucky Peat or Peat (S8) (LRR K, L, R) Mucky Peat or Peat (S8) (LRR K, L, R) Mucky Peat or Peat (S9) (LRR K, L) Mucky Pea
of hydrophytic vegeta		etland hydro	logy mus	t be prese	nt, unless	s disturbed	or problemati	ic.
Layer (if observed):							
							Hudeia Cai	I Draggard 2 Vag / No
nches):							Hyaric Soi	I Present? Yes No
neets three hy	dric so	il indicat	ors. Cl	ay thro	ughou	ıt.		



wase080s_w2_N



wase080s_w2_S

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION		
Project name:	Evaluator(s):	
Line 5 Relocation Project	MAL/ARK	
File #:	Date of visit(s):	
wase080	10/11/2019	
Location:	Ecological Landsca	pe:
PLSS: <u>046N-004W-05</u>	Superior Coastal Plain	
	Superior Coastal Flairi	
Lat: <u>46.492859</u> Long: <u>-90.898111</u>	Watershed: LS10, White River	
County: Ashland Town/City/Village: White River town	,	
OUTE DECORIDATION		
SITE DESCRIPTION	1	
Soils:	WWI Class:	
Mapped Type(s):	T3Kr, T3/5Kr	
580B, 280F, Sanborg-Badriver complex, 0 to 6 percent slopes, Odanah	Wetland Type(s):	
silt loam, 25 to 60 percent slopes	PSS - Shrúb-Cárr,	PFO - Hardwood Swamp, PEM
Field Verified:		
Series not verified. Soils were clay throughout the	Wetland Size:	Wetland Area Impacted
profile.	3.94	3.94
•	Vegetation:	
	Plant Community D	escription(s):
Hydrology:		eadow interspersed with trees and shrubs.
The depression is seasonally saturated and associated		within the open portion is dense and consists
with an intermittent stream. The feature appears to be		ensis, Scirpus cyperinus, and other
artificially drained. Portions of the feature have discharge		as well as Solidago sp. Tree and shrub s tremuloides, Abies balsamea, Alnus
hydrology.	incana, and Salix petiola	

SECTION 1: Functional Value Assessment

HU Y/N Potential Human Use Values: recreation, culture, education, science, natural scenic beauty 1 N Y Used for recreation (funting, birding, hising, etc.). List: Hunting 2 N N N Used for educational or scientific purposes 3 N N N Visually or physically occessible to public 4 N N N Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation 5 N N In or adjacent to RED FLAG areas 6 N N Supports or provides habitat for endangered, threatened or special concern species 7 In or adjacent to archaeological or cultural resource site 9 WH WH Wildire Habitat 1 Y Y Welland and contiguous habitat 10 acres 2 Y Y 3 ormore strata present (5-10% cover) 3 N N Wildin or adjacent to habitat corridor or established wildlife habitat area 4 Y Y 10 more strata present (5-10% cover) 5 N N Occurs in a Joint Venture priority township 6 Y Y Y 10 more strata present (5-10% cover) 7 Y Y Supports or provides habitat for SGCN or birds issed in the Wi Alf-Bird Cons. Plan, or other 8 N Y Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present 2-45 days 10 N Y Standing water provides habitat for samphibians and aquatic invertebrates 11 N N Seasonally exposed muditats present 12 N Y P Standing water provides habitat for amphibians and aquatic invertebrates 13 N N Wettand is connected or contiguous with perennial stream or lake 14 N Y Standing water provides habitat for amphibians and aquatic invertebrates 15 N N Provides habitat serve in the area (urban, agricultural, etc.) 16 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 17 N N Wettand is connected or contiguous with perennial stream or lake 18 N Y Potential to hold store or in the area (urban, agricultural, etc.) 19 N N Standing water provides habitat for amphibians and aquatic invertebrates 19 N N N International for existent in the area (urban, agricultural, etc.) 10 N Y Y Opense (urban) Provides habitat for amphibians and aquatic invertebrates 10 N N N Wettand is connected or c				Functional Value Assessment
2	HU	Y/N	Potential	
3	1	N	Υ	
N	2	Ν	N	Used for educational or scientific purposes
Social Province No.	3	N	N	Visually or physically accessible to public
Section No. No. List: In or. adjacent to archaeological or cultural resource site In or. adjacent to a stream In or. adjacent to archaeological or cultural resource site In or. adjacent to a stream In or. adjacen	4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
Section No. No. List: In or. adjacent to archaeological or cultural resource site In or. adjacent to a stream In or. adjacent to archaeological or cultural resource site In or. adjacent to a stream In or. adjacen	_			In or adjacent to RED FLAG areas
In or adjacent to archaeological or cultural resource site Wildlife Habitat	5	N	N	· · · · · · · · · · · · · · · · · · ·
In or adjacent to archaeological or cultural resource site Wildlife Habitat	6	N	N	Supports or provides habitat for endangered, threatened or special concern species
Well	7			
1	WH			
2		Υ	Υ	
N	2			
4 Y Y 100 m buffer − natural land cover ≤0%(south) 75% (north) intact 5 N N Occurs in a Joint Venture priority township 6 Y Y Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex.etc.) 7 Y Supports or provides habitat for SGCN or birds listed in the WI Ali-Bird Cons. Plan, or other plans 8 N Y Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥ 45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) FA FA Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring Shoreline Protection 1 Y A Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 NA NA water levels or high flows - if no, not applicable 9 NN NA water levels or high flows - if no, not applicable 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 2 Y Y Water flow through wetland is NOT channelized 4 N N Evidence of flashy hydrology 5 N N N Impervious surfaces cover >10% of land surface within the watershed 7 N N Within a watershed with ≥10% wetland 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water flow through wetland is NOT channelized 9 N N N Storm and Floodwater storage 10 N N Provides substantial storage of storm and floodwater based on previous section 11 N N Provides substantial storage of storm and floodwater based on previous section 12 Y Y Basin wetland or constricted outlet 13 N N Provides substantial storage of storm and floodwater based on previous section 14 Y Y Septial water or surface water from agric	-			
5 N N Cocurs in a Joint Venture priority township 6 Y Y Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 7 Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N Y Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥ 45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring 5 P Shoreline Protection 1 Y Y Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 NA NA Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable 3 Y Y Densely rooted emergent or woody vegetation 5 Storm and Floodwater Storage 1 Y Y Water flow through wetland is NOT channelized 3 Y Y Dense, persistent vegetation 4 N N Evidence of flashy hydrology 5 N N Point or non-point source inflow 6 N N Impervious surfaces cover >10% of land surface within the watershed 7 N N N Within a watershed with <10% wetland 8 N N Provides substantial storage of storm and floodwater based on previous section 9 N N N Signs of excess nutrients, such as alique blooms, heavy macrophyte growth 7 N N Point or non-point source water 9 N N N Signs of excess nutrients, such as alique blooms, heavy macrophyte growth 7 N N Signs of excess nutrients, such as alique blooms, heavy macrophyte growth 7 N N Signs of excess nutrients, such as alique blooms, heavy macrophyte growth 7 N N Signs of excess nutrients, such as alique blooms, heavy macrophyte growth 8 N N	-			
No.	$\overline{}$			
7	$\overline{}$			Interspersion of habitat structure (hemi-marsh shruh/emergent, wetland/unland complex etc.)
8	-	ĭ	Y	
8 N Y Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥ 45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudifats present 12 N Provides habitat scarce in the area (urban, agricultural, etc.) FFA Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring FP Shoreline Protection 1 Y Y Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable 1 Y Y Densely rooted emergent or woody vegetation Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 2 Y Y Water flow through wetland is NOT channelized 3 Y Y Dense, persistent vegetation 4 N N Evidence of flashy hydrology 5 N Y Dense, persistent vegetation 4 N N Impervious surfaces cover >10% of land surface within the watershed 7 N N N Within a watershed with ≤10% wetland 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water flow through wetland is NOT channelized 1 N N Provides substantial storage of storm and floodwater based on previous section 1 N N Provides substantial storage of storm and floodwater based on previous section 1 N N Provides substantial storage of storm and floodwater based on previous section 1 N N Provides substantial storage of storm and floodwater based on previous section 1 N N Provides substantial storage of storm and floodwater based on previous section 2 Y Y Dense, persistent vegetation 3 Y Y Dense, persistent vegetation 4 Y Y Dense, persistent vegetation 5 Y Y Dense, persistent vegetat	7	Υ	Υ	
9	0	N.I.	V	
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5 N N Wetland is within a wellhead protection area	$\overline{}$	N	N	
	5	N	N	Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers) WH-10, FA-2: wetland is associated with an intermittent stream WH-6: feature supports a meadow with dense herbaceous vegetation as well as areas with shrub and tree cover ST-5, WQ-7: west side of the feature abuts land used for agriculture, feature may receive some runoff from agricultural fields Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed **Potential** Species/Habitat/Comments Songbirds, raptors, insect pollinators, amphibians Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat Υ Aquatic invertebrates

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	inity intogrity (on olo)			
	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4 🗸	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Populus tremuloides			PSS	Common
Abies balsamea			PSS	Uncommon
Alnus incana			PSS	Abundant
Salix petiolaris			PSS	Common
Phalaris arundinacea			PSS	Common
Scirpus cyperinus			PSS	Common
Solidago altissima			PSS	Common
Agrostis gigantea			PSS	Common
Calamagrostis candensis			PSS	Common
Symphyotrichum lateriflorum			PSS	Uncommon
Carex gracillima			PSS	Uncommon
Rubus idaeus			PSS	Uncommon
Glyceria canadensis			PSS	Uncommon
Geum macrophyllum			PSS	Uncommon
Persicaria sagittata			PSS	Uncommon
Solidago gigantea			PSS	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The feature is degraded and influenced by invasive species cover. There is also interspersion of habitat types as well as moderate overall vegetation diversity.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor		
					Filling, berms (non-impounding)		
					Drainage – tiles, ditches		
					Hydrologic changes - high capacity wells,		
					impounded water, increased runoff		
					Point source or stormwater discharge		
					Polluted runoff		
					Pond construction		
					Agriculture – row crops		
					Agriculture – hay		
	Х		L	С	Agriculture – pasture		
					Roads or railroad		
					Utility corridor (above or subsurface)		
					Dams, dikes or levees		
					Soil subsidence, loss of soil structure		
					Sediment input		
				0	Removal of herbaceous stratum – mowing,		
	X		L	С	grading, earthworms, etc.		
					Removal of tree or shrub strata – logging,		
					unprescribed fire		
Χ	Х		М	С	Human trails – unpaved		
					Human trails – paved		
	Х		L	С	Removal of large woody debris		
Χ	Х		М	С	Cover of non-native and/or invasive species		
					Residential land use		
					Urban, commercial or industrial use		
					Parking lot		
					Golf course		
					Gravel pit		
					Recreational use (boating, ATVs, etc.)		
					Excavation or soil grading		
					Other (list below):		
					<u>'</u>		

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The feature is influenced by invasive species cover and mowed vegetation along the margins. The feature may be artificially drained.	

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity	√				
Human Use Values	√				
Wildlife Habitat	√				
Fish and Aquatic Life Habitat	√				
Shoreline Protection		✓			
Flood and Stormwater Storage		✓			
Water Quality Protection		1			
Groundwater Processes		✓			

FUNCTION	RATIONALE
Floristic Integrity	High invasive species cover, moderate diversity, disturbed
Human Use Values	Not visible to the public and is not utilized for recreation or research
Wildlife Habitat	Feature provides some habitat for wildlife due to interspersion of habitat types and association with stream
Fish and Aquatic Life Habitat	May support standing water and is associated with a stream
Shoreline Protection	Associated with an intermittent stream
Flood and Stormwater Storage	Densely vegetated but does not receive a high volume of stormwater or runoff, large size
Water Quality Protection	See above, associated with a stream
Groundwater Processes	May be artificially drained and is fed by rainwater and runoff, portions of wetland exhibit discharge hydrology

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/Count	y: Ashland	Sar	mpling Date: <u>2019-10-1</u> 1		
Applicant/Owner: Enbridge		;	State: WI S	Sampling Point: wase080_u1		
Investigator(s): ARK/MAL	Section, T	ownship, Range: <u>046</u>	6N-004W-05			
Landform (hillslope, terrace, etc.): Crest						
Subregion (LRR or MLRA): Northcentral Forests Lat: 2	16.493101	Long: -90.8	397902	Datum: WGS84		
Soil Map Unit Name: Sanborg-Badriver comp	lex. 0 to 6 percei	nt slopes	NWI classification	n:		
Are climatic / hydrologic conditions on the site typical for t						
Are Vegetation, Soil, or Hydrology	•					
Are Vegetation, Soil, or Hydrology						
SUMMARY OF FINDINGS – Attach site ma	p showing samplir	ng point locations	s, transects, im	portant features, etc.		
Hydrophytic Vegetation Present? Yes	No ✓ Is t	he Sampled Area				
Hydric Soil Present? Yes	No <u>√</u> wit	hin a Wetland?	Yes	No <u>√</u>		
Wetland Hydrology Present? Yes	No <u>√</u> If ye	es, optional Wetland S	ite ID:			
HYDROLOGY						
Wetland Hydrology Indicators:			•	(minimum of two required)		
Primary Indicators (minimum of one is required; check a			_ Surface Soil Crac			
	ater-Stained Leaves (BS		Drainage Patterns (B10)			
	quatic Fauna (B13)	_	Moss Trim Lines (B16)			
	arl Deposits (B15)	-4\	Dry-Season Water Table (C2)			
	ydrogen Sulfide Odor (C xidized Rhizospheres or		-	e on Aerial Imagery (C9)		
	resence of Reduced Iron					
	ecent Iron Reduction in		· · · · · · · · · · · · · · · · · · ·			
	nin Muck Surface (C7)		d Soils (C6) Geomorphic Position (D2) Shallow Aquitard (D3)			
	ther (Explain in Remarks		_ Microtopographic			
Sparsely Vegetated Concave Surface (B8)	(=-		_ FAC-Neutral Tes			
Field Observations:			<u></u>	. ,		
Surface Water Present? Yes No _ ✓ _ [Depth (inches):					
Water Table Present? Yes No _ ✓ _ [Depth (inches):					
Saturation Present? Yes No _ ✓ □	Depth (inches):	Wetland Hyd	Irology Present?	Yes No/		
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring wel	Laerial photos, previous	inspections) if availal	hle:			
20001100 Noodrada 2ata (onodin gaago, memoring wor	i, donai priotoo, proviode	s mopodiono,, ii avanai	010.			
Remarks: No indicators of wetland hydrology we	aro obsorved					
Two indicators of wetland flydrology we	ere observed.					

VEGETATION – Use scientific names of plants.

				Sampling Point: wase080_u1			
Tree Stratum (Plot size:30')	Absolute % Cover		t Indicator Status	Dominance Test worksheet:			
1. <u>Picea glauca</u>	15.0_	Y	FACU	Number of Dominant Species That Are OBL, FACW, or FAC:1.0 (A)			
2. <u>Thuja occidentalis</u>				Total Number of Dominant			
3				Species Across All Strata: 5.0 (B)			
4				Percent of Dominant Species			
5				That Are OBL, FACW, or FAC: 20.0 (A/B)			
6				Prevalence Index worksheet:			
7				Total % Cover of: Multiply by:			
	20.0 =	= Total Co	ver	OBL species x 1 =			
Sapling/Shrub Stratum (Plot size: 15')				FACW species5.0 x 2 =10.0			
1				FAC species x 3 = 15.0			
2				FACU species 80.0 x 4 = 320.0			
3.				UPL species <u>35.0</u> x 5 = <u>175.0</u>			
4				Column Totals: <u>125.0</u> (A) <u>520.0</u> (B)			
5				Prevalence Index = B/A = 4.2			
6				Hydrophytic Vegetation Indicators:			
7				1 - Rapid Test for Hydrophytic Vegetation			
	0.0 =		avor.	2 - Dominance Test is >50%			
Herb Stratum (Plot size:5')		- Total Co	ivei	3 - Prevalence Index is ≤3.0¹			
	35.0	V	UPL	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)			
1. <u>Bromus inermis</u>			FACU	Problematic Hydrophytic Vegetation ¹ (Explain)			
2. <u>Solidago altissima</u>				Troblematic Hydrophytic Vegetation (Explain)			
3. <u>Phleum pratense</u>		Y	FACU	¹ Indicators of hydric soil and wetland hydrology must			
4. <u>Taraxacum officinale</u>		_N_	FACU				
5. <u>Fragaria virginiana</u>		N	FACU	Definitions of Vegetation Strata:			
6. <u>Symphyotrichum lateriflorum</u>			FAC	Tree – Woody plants 3 in. (7.6 cm) or more in diameter			
7. <u>Lotus corniculatus</u>		N	<u>FACU</u>	at breast height (DBH), regardless of height.			
8				Sapling/shrub – Woody plants less than 3 in. DBH			
9				and greater than or equal to 3.28 ft (1 m) tall.			
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.			
11							
12				Woody vines – All woody vines greater than 3.28 ft in height.			
	<u>105.0</u> =	= Total Co	ver	3			
Woody Vine Stratum (Plot size:)							
1			-				
2							
3				Hydrophytic			
4				Vegetation Present? Yes No✓			
	$\cap \cap$	= Total Co	ver				

SOIL Sampling Point: wase080_u1

Profile Des	cription: (Describe t	o the dep	th needed	to docur	nent the i	ndicator	or confirm	the absence	of indicators.)
Depth	Matrix				x Features		. 2	- .	5
(inches)	Color (moist) 7.5YR 4/3	100	Color (n	noist)	%	Type'	Loc ²	Texture CI	Remarks
3-18	7.5YR 4/3		2.5YR	5/8	35		NA	CL	Prominent redox
3-18	7.5YR 5/8	5						CL	1 TOTTILLETIC TEGOX
<u> </u>	7.511C 5/O							<u> </u>	
-					· ——				
									
-									
					· ——				
-			-		· ——				
					· ——				
					. ——				
1								2	
	Concentration, D=Deplement Indicators:	etion, RM	=Reduced N	Matrix, MS	S=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils ³ :
Histoso	I (A1)				w Surface	(S8) (LR I	R R,	2 cm l	Muck (A10) (LRR K, L, MLRA 149B)
	pipedon (A2) listic (A3)			RA 149B) ark Surfa		RRR M	LRA 149B)		Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R)
Hydrog	en Sulfide (A4)		Loamy	Mucky N	/lineral (F1	I) (LRR K		Dark S	Surface (S7) (LRR K, L)
	d Layers (A5) d Below Dark Surface	. (Δ11)		Gleyed I ed Matrix	Matrix (F2)			alue Below Surface (S8) (LRR K, L) Dark Surface (S9) (LRR K, L)
-	ark Surface (A12)	(Д11)			rface (F6)				Manganese Masses (F12) (LRR K, L, R)
-	Mucky Mineral (S1)				Surface (F	7)			nont Floodplain Soils (F19) (MLRA 149B)
-	Gleyed Matrix (S4) Redox (S5)		Redox	Depress	ions (F8)				Spodic (TA6) (MLRA 144A, 145, 149B) Parent Material (F21)
	d Matrix (S6)		_,						Shallow Dark Surface (TF12)
Dark St	urface (S7) (LRR R, M	LRA 149	3)					Other	(Explain in Remarks)
	of hydrophytic vegetati	on and w	etland hydro	logy mus	t be prese	ent, unles	s disturbed	or problemati	С.
Type:	Layer (II observed).								
'' -	nches):							Hydric Soi	I Present? Yes No _✓
Remarks:									
No nyan	c soil indicator	s were	observe	ea.					



wase080_u1_NW



wase080_u1_SE

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	t City/C	County: Ashland	Sa	ampling Date: <u>2019-10-11</u>			
Applicant/Owner: Enbridge							
Investigator(s): ARK/MAL	Section	on, Township, Range: 04	6N-004W-05				
Landform (hillslope, terrace, etc.): Crest							
Subregion (LRR or MLRA): Northcentral Forest							
Soil Map Unit Name: Sanborg-Badriver							
Are climatic / hydrologic conditions on the site typ	•	•					
Are Vegetation, Soil, or Hydrology							
Are Vegetation, Soil, or Hydrology			plain any answers ir				
SUMMARY OF FINDINGS – Attach si	te map showing sam	ipling point location	ns, transects, in	nportant features, etc.			
Hydrophytic Vegetation Present? Yes _	No <u></u>	Is the Sampled Area					
Hydric Soil Present? Yes _	No <u></u>	within a Wetland?	Yes	No <u>√</u>			
Wetland Hydrology Present? Yes _ Remarks: (Explain alternative procedures here	No <u></u>	If yes, optional Wetland S	Site ID:				
Upland forest edge.							
HYDROLOGY							
Wetland Hydrology Indicators:		<u> </u>	Secondary Indicators	s (minimum of two required)			
Primary Indicators (minimum of one is required;	check all that apply)		Surface Soil Cracks (B6)				
Surface Water (A1)	Water-Stained Leave		Drainage Patterns (B10)				
High Water Table (A2)	Aquatic Fauna (B13)	-	Moss Trim Lines (B16)				
Saturation (A3) Water Marks (B1)	Marl Deposits (B15)	or (C1)	Dry-Season Water Table (C2)Crayfish Burrows (C8)				
Sediment Deposits (B2)	Hydrogen Sulfide Od Oxidized Rhizosphere			e on Aerial Imagery (C9)			
Sediment Deposits (B2) Drift Deposits (B3)	Presence of Reduced	=					
Algal Mat or Crust (B4)	Recent Iron Reduction						
Iron Deposits (B5)	Thin Muck Surface (0		Shallow Aquitard (D3)				
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Rer						
Sparsely Vegetated Concave Surface (B8)		,	FAC-Neutral Tes				
Field Observations:							
Surface Water Present? Yes No _	✓ Depth (inches):						
Water Table Present? Yes No _	✓ Depth (inches):						
	✓ Depth (inches):	Wetland Hy	drology Present?	Yes No <u>√</u>			
(includes capillary fringe) Describe Recorded Data (stream gauge, monito	ring well, aerial photos, pre	vious inspections), if avail	able:				
	3 / 1 /1	, ,,					
Remarks: No wetland hydrology indicators	were observed.						
, 0,							

VEGETATION – Use scientific names of plants.

	S.			Sampling Point: wase080_u2
Tree Stratum (Plot size:30')	Absolute % Cover		t Indicator Status	Dominance Test worksheet:
1. Pinus resinosa	20.0	Υ	FACU	Number of Dominant Species That Are OBL, FACW, or FAC:1.0 (A)
2. <u>Acer saccharum</u>			FACU	
3. Betula papyrifera			FACU	Total Number of Dominant Species Across All Strata: 5.0 (B)
4				
5.				Percent of Dominant Species That Are OBL, FACW, or FAC: 20.0 (A/B)
6.				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	35.0 =	= Total Co	ver	OBL species 10.0 x1 = 10.0
Sapling/Shrub Stratum (Plot size:)				FACW species 0.0 x 2 = 0.0 FAC species 10.0 x 3 = 30.0
1. <u>Rubus idaeus</u>	_ <u>10.0</u>	<u> Y </u>	<u>FAC</u>	FACU species 60.0 x 4 = 240.0
2			-	UPL species $40.0 \times 5 = 200.0$
3				Column Totals: 120.0 (A) 480.0 (B)
4				,,,,,,,,,
5				Prevalence Index = B/A = 4.0
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	10.0 =		ver	2 - Dominance Test is >50%
Herb Stratum (Plot size:5')				3 - Prevalence Index is ≤3.0¹
1. Eurybia macrophylla	40.0	V	UPL	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Pteridium aquilinum			FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
•				robicinate rivatophytic vegetation (Explain)
3. <u>Calamagrostis canadensis</u>			OBL	¹ Indicators of hydric soil and wetland hydrology must
4. <u>Fragaria virginiana</u>				be present, unless disturbed or problematic.
5			·	Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	75.0 =	= Total Co	ver	height.
Woody Vine Stratum (Plot size:30')				
1				
2.				
3				Hydrophytic Vegetation
4				Present? Yes No✓
	(1)(1) -	= Total Co	ver	

SOIL Sampling Point: wase080_u2

Profile Desc	cription: (Describe	to the de	oth needed	to docur	nent the i	ndicator	or confirm	the absence	e of indicators.)
Depth	Matrix				x Features		. 2	- .	5
(inches)	Color (moist) 7.5YR 3/4	100	Color (n	noist)	%	Type'	Loc ²	Texture SL	Remarks
2-12			7.5YR	5/6	40		N./I		Distinct redox
	1.51K 3/4	_30_					IVI		Distilict redox
2-12	7.5VD 5/0	400	7.5YR	0/3	_30_	<u> </u>	IVI	SC SC	
12-10	7.5YR 5/8	100			. ———			_5C_	
					·				
					. ———				
		· ——			·				
					· ———				
¹ Type: C=C Hydric Soil	oncentration, D=Dep	letion, RM	=Reduced N	Matrix, MS	S=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils ³ :
Histosol			Polyva	lue Belov	w Surface	(S8) (LR I	R R,		Muck (A10) (LRR K, L, MLRA 149B)
	pipedon (A2)			RA 149B)		DD D 14	. D.A. 440D)		Prairie Redox (A16) (LRR K, L, R)
	istic (A3) en Sulfide (A4)				ice (S9) (L ⁄lineral (F		LRA 149B) (, L)		Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L)
Stratifie	d Layers (A5)		Loamy	Gleyed I	Matrix (F2			Polyva	alue Below Surface (S8) (LRR K, L)
-	d Below Dark Surface ark Surface (A12)	e (A11)		ed Matrix Dark Su	(F3) rface (F6)				Dark Surface (S9) (LRR K, L) Manganese Masses (F12) (LRR K, L, R)
Sandy N	Mucky Mineral (S1)		Deplet	ed Dark S	Surface (F	7)		Piedm	nont Floodplain Soils (F19) (MLRA 149B)
	Gleyed Matrix (S4) Redox (S5)		Redox	Depress	ions (F8)				Spodic (TA6) (MLRA 144A, 145, 149B) Parent Material (F21)
	d Matrix (S6)								Shallow Dark Surface (TF12)
Dark Su	ırface (S7) (LRR R, N	ILRA 149	B)					Other	(Explain in Remarks)
	f hydrophytic vegetat		etland hydro	logy mus	t be prese	ent, unles	s disturbed o	or problemati	ic.
	Layer (if observed):								
Type:	ahaa).							Hydric Soi	I Present? Yes No✓
Remarks:	ches):							1194110 001	11105cm: 105 No
	c soil indicator	s were	observ	ed.					



wase080_u2_N



wase080_u2_S

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation	n Proiect	City/C	County: Ashla	and	Samplir	ng Date: <u>2019-10-15</u>		
Applicant/Owner: Enbridge	•							
	RK/NTT Section, Township, Range: 046N-004W-06							
Landform (hillslope, terrace, etc.): D								
Subregion (LRR or MLRA): Northce								
Soil Map Unit Name: Sanborg-E								
· ·			•					
Are climatic / hydrologic conditions or								
Are Vegetation, Soil,								
Are Vegetation, Soil,	or Hydrology	naturally problema	atic? (If	needed, explain an	ıy answers ın Ren	narks.)		
SUMMARY OF FINDINGS -	Attach site m	nap showing sam	ipling point	locations, trai	nsects, impo	rtant features, etc.		
Hydrophytic Vegetation Present? Hydric Soil Present?	Yes <u></u> ✓	No No	Is the Sample within a Wetl	ed Area and? Ye	es✓ No			
Wetland Hydrology Present? Remarks: (Explain alternative processing)		No	If yes, optiona	I Wetland Site ID:				
Depressional feature loc towards a large lake.						J		
HYDROLOGY				0				
Wetland Hydrology Indicators:		le all that anniels				nimum of two required)		
Primary Indicators (minimum of one					face Soil Cracks (I			
Surface Water (A1) High Water Table (A2)		Water-Stained Leave Aquatic Fauna (B13)			Drainage Patterns (B10) Moss Trim Lines (B16)			
Saturation (A3)		Marl Deposits (B15)			Season Water Ta			
Water Marks (B1)		Hydrogen Sulfide Ode	or (C1)		yfish Burrows (C8			
Sediment Deposits (B2)		Oxidized Rhizosphere				Aerial Imagery (C9)		
Drift Deposits (B3)		Presence of Reduced	_		nted or Stressed F	=		
Algal Mat or Crust (B4)	<u> </u>	Recent Iron Reductio	n in Tilled Soils		morphic Position			
Iron Deposits (B5)		Thin Muck Surface (C	27)	Shal	llow Aquitard (D3))		
Inundation Visible on Aerial Image	agery (B7)	Other (Explain in Ren	narks)	Micr	rotopographic Reli	ief (D4)		
Sparsely Vegetated Concave S	Surface (B8)			FAC	C-Neutral Test (D5	5)		
Field Observations:								
		Depth (inches):						
		Depth (inches):						
Saturation Present? Yes (includes capillary fringe)	No <u></u>	_ Depth (inches):	V	Vetland Hydrology	y Present? Yes	s/_ No		
Describe Recorded Data (stream ga	auge, monitoring	well, aerial photos, pre	vious inspection	ns), if available:				
Remarks:								
Feature assumed to have	/e a saturate	ed hydrologic re	eaime.					
		, 5	3					

VEGETATION – Use scientific names of plants.

Tree Obstance (Distrators 20)	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover			Number of Dominant Species
1				That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata: (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC:
6				Prevalence Index worksheet:
7	_			Total % Cover of: Multiply by:
	0.0	= Total Co	ver	OBL species15 x 1 =15
Sapling/Shrub Stratum (Plot size:)				FACW species <u>25</u> x 2 = <u>50</u>
1				FAC species <u>20</u> x 3 = <u>60</u>
2				FACU species10 x 4 =40
				UPL species0 x 5 =0
3				Column Totals:(A)(B)
4				Prevalence Index = B/A =2.36
5				Hydrophytic Vegetation Indicators:
6				1 - Rapid Test for Hydrophytic Vegetation
7				∠ 2 - Dominance Test is >50%
	0.0	= Total Co	ver	\checkmark 3 - Prevalence Index is $\le 3.0^1$
Herb Stratum (Plot size: 5') 1. Phalaris arundinacea	25	V	FACW	4 - Morphological Adaptations ¹ (Provide supporting
			FAC	data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)
2. <u>Symphyotrichum lateriflorum</u>				robicinate rivatophytic vegetation (Explain)
3. <u>Scirpus cyperinus</u>		_N_	OBL	¹ Indicators of hydric soil and wetland hydrology must
4. <u>Juncus effusus</u>		_N_	OBL	be present, unless disturbed or problematic.
5. <u>Schedonorus arundinaceus</u>		N	<u>FACU</u>	Definitions of Vegetation Strata:
6. <i>Phleum pratense</i>	5	N	<u>FACU</u>	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7	_			at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12			·	Woody vines – All woody vines greater than 3.28 ft in
		= Total Co	ver	height.
Woody Vine Stratum (Plot size:30')				
1				
2				
3				Hydrophytic Vegetation
4				Present? Yes/ No
Remarks: (Include photo numbers here or on a separate		= Total Co	ver	
Sample plot is representative of the we		he vea	etation is	s dominated by reed canary grass and
calico aster.				a community record commonly grades and

Sampling Point: wasa051e_w

SOIL Sampling Point: wasa051e_w

Profile Desc	cription: (D	escribe 1	to the dep	th needed	to docun	nent the i	ndicator	or confirm	the absence	e of indicators.)	
Depth		Matrix	0/	0-1		x Features		12	Taratana	Deve ent e	
(inches)	Color (r		<u>%</u>	Color (n	10IST)	%	Type'	_Loc ²	Texture	<u>Remarks</u>	
0-6	10YR		100						CL		
6-18	<u>5YR</u>	4/3	90	<u>7.5YR</u>	5/6	_10_	<u>C</u>	_M_	C	Prominent redox	
	-			-							
¹ Type: C=C			etion, RM	=Reduced N	latrix, MS	S=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix.	
Hydric Soil				Dohara	lua Balan	u Curfoso	(CO) /I DI	D D		s for Problematic Hydric Soils ³ :	
Histosol Histic E	r (A r) pipedon (A2)		-	iue belov R A 149B)	v Surface	(56) (LK I	χĸ,		Muck (A10) (LRR K, L, MLRA 149B) Prairie Redox (A16) (LRR K, L, R)	
Black H	istic (A3)							LRA 149B)	5 cm l	Mucky Peat or Peat (S3) (LRR K, L, R)	
	en Sulfide (A d Layers (A				-	/lineral (F1 Matrix (F2		., L)		Surface (S7) (LRR K, L) alue Below Surface (S8) (LRR K, L)	
	d Below Dai		e (A11)		ed Matrix		,			Dark Surface (S9) (LRR K, L)	
	ark Surface					rface (F6)	-			Manganese Masses (F12) (LRR K, L, R)	
	Mucky Miner Gleyed Matri					Surface (F ions (F8)	7)			nont Floodplain Soils (F19) (MLRA 149B) Spodic (TA6) (MLRA 144A, 145, 149B)	
	Redox (S5)	х (С .)			2 ор. осо	.01.0 (1.0)			✓ Red Parent Material (F21)		
	d Matrix (S6)			D)					Very Shallow Dark Surface (TF12)		
Dark Su	ırface (S7) (LKK K, IV	ILKA 149	В)					Other	(Explain in Remarks)	
		-		etland hydro	logy mus	t be prese	ent, unles	s disturbed	or problemati	C.	
Restrictive	Layer (if ob	served):									
Type:									Hydric Soi	I Present? Yes No	
Remarks:	ches):								Tryunc 301	111636H: 163 <u>v</u> NO	
Dark clay	v loam c	ver re	ddish (clav.							
_ = ===================================	,			,							



wasa051e_w_N



wasa051e_w_S

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name:	Evaluator(s):		
Line 5 Relocation Project	NTT/DGL		
File #:	Date of visit(s):		
wasa051	09/10/2019		
Location:	Ecological Landsca	ipe:	
PLSS: <u>046N-004W-06</u>	Superior Coastal Plain		
	Superior Coastal Flain		
Lat: <u>46.494202</u> Long: <u>-90.91181045</u>	Watershed:		
	LS10 White River		
County: Ashland Town/City/Village: White River town			
SITE DESCRIPTION			
Soils:	WWI Class:		
Mapped Type(s):	N/A		
580B, Sanborg-Badriver complex, 0 to 6 percent slopes	Wetland Type(s):		
	PEM- Fresh wet meadow		
Field Verified:			
Series not verified. The soils consist of a clay	Wetland Size:	Wetland Area Impacted	
loam over a clay texture.	0.08	0.08	
ream ever a ciay textare.	Vegetation:		
	Plant Community Description(s):		
Hydrology:	Depressional feature located on the edge of a		
Seasonally saturated based on FAC-Neutral test	'		
and geomorphic position.		field and a forest sloping	
and geomorphic position.	downward towar	ds a large lake.	

SITE MAP		

SECTION 1: Functional Value Assessment

			Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	Ν	N	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
_			In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7			In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N	N	100 m buffer – natural land cover >50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	N		Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
0	IN	N	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
7	Υ	Υ	
			plans Destruct of a large habitat black that aupports area capaitive appaies
8	N	Y	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present > 45 days
10	N	N	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	Ν	N	Wetland is connected or contiguous with perennial stream or lake
2	Ν	Ν	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	NA	NA	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	NA	NA	water levels or high flows – if no, not applicable
3	NA	NA	Densely rooted emergent or woody vegetation
ST		1 47 3	Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	N	N	Water flow through wetland is NOT channelized
3	N	N	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5		N N	Point or non-point source inflow
6	N		Impervious surfaces cover >10% of land surface within the watershed
	N	N	
7	N	N	Within a watershed with <10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ		A.1	Water Quality Protection
1	N	N	Provides substantial storage of storm and floodwater based on previous section
2	N	N	Basin wetland or constricted outlet
3	N	N	Water flow through wetland is NOT channelized
4	N	N	Vegetated wetland associated with a lake or stream
5	N	N	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
	IN		
9	N	N	Natural land cover in 100m buffer area < 50%
			Natural land cover in 100m buffer area < 50% Groundwater Processes
9 GW	N	N	Groundwater Processes
9 GW 1	N N	N N	Groundwater Processes Springs, seeps or indicators of groundwater present
9 GW 1 2	N N N	N N N	Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland
9 GW 1 2 3	N N N	N N N	Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland Wetland remains saturated for an extended time period with no additional water inputs
9 GW 1 2	N N N	N N N	Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland

Wi	Idlife Habita	at and Species Observation (including amphibians and reptiles)
		servation, tracks, scat, other sign; type of habitat: nesting, migratory,
WII	nter, etc.	
Dbserved	Potential	Species/Habitat/Comments
	Υ	White-tailed deer
Υ	Υ	Songbirds
	Y	Frogs
Fis	sh and Aqua	atic Life Habitat and Species Observations
Lis	st: direct ob	servation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Dbserved	Potential	Species/Habitat
MOCI VEU	i Otential	Openicarriabilat

Section 1 Comments (Refer to Section 1 numbers)

ST1 - small basin wetland. FA4 - located in a slight depression where water may pool in spring.

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species	> 50%	20-50% ✓	10-20%	<10%
cover				
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native	All strata present and good assemblage of	All strata present, conservative species represented
	'	species	native species	'
NHI plant community ranking	S4/	S3	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
Phalaris arundinacea			PEM	Abundant
Symphyotrichum lateriflorum			PEM	Abundant
Scirpus cyperinus			PEM	Uncommon
Juncus effusus			PEM	Uncommon
Schedonorus arundinaceus			PEM	Uncommon
Phleum pratense			PEM	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

Invasive species cover present with a majority dominated by reed canary grass.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
	Χ		L	С	Polluted runoff
					Pond construction
					Agriculture – row crops
Х	Х		M	С	Agriculture – hay
					Agriculture – pasture
	Х		L	С	Roads or railroad
	Х		L	С	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
V				0	Removal of herbaceous stratum – mowing,
X	X		M	С	grading, earthworms, etc.
	V			0	Removal of tree or shrub strata – logging,
	X		L	С	unprescribed fire
	Х		L	С	Human trails – unpaved
					Human trails – paved
	Х		L	С	Removal of large woody debris
Х	Х		М	С	Cover of non-native and/or invasive species
	Х		L	С	Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):
					, ,

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

Dominated by reed canary grass and located alongside a cut hay field.					

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION	SIGNIFICANCE						
	Low	Medium	High	Exceptional	NA		
Floristic Integrity	√						
Human Use Values	√						
Wildlife Habitat	√						
Fish and Aquatic Life Habitat	√						
Shoreline Protection					1		
Flood and Stormwater Storage	√						
Water Quality Protection	√						
Groundwater Processes	√						

FUNCTION	RATIONALE
Floristic Integrity	Low diversity, dominated by non-native species
Human Use Values	Within a active hay field
Wildlife Habitat	Adjacent to forested land along the white river, but small in size
Fish and Aquatic Life Habitat	No water present in wetland
Shoreline Protection	N/A
Flood and Stormwater Storage	Small basin wetland
Water Quality Protection	Dense vegetation
Groundwater Processes	Majority of input is from precipitation events

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: As	hland	Sampling Date: 2019-10-15
<u> </u>	Section, Township, Range: 046N-004W-06		
	Local relief (concave, convex, none): None Slope (%): 0-2%		
Subregion (LRR or MLRA): Northcentral Forests	Lat: 46 494118	Long: -90 911805	Datum: WGS84
Soil Map Unit Name: Sanborg-Badriver co	omplex 0 to 6 percent slo	nes NWI classifi	cation:
Are climatic / hydrologic conditions on the site typic			
Are Vegetation, Soil, or Hydrology _			
Are Vegetation, Soil, or Hydrology _			
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? Yes	No ✓ Is the Sar	npled Area	
		-	No <u>√</u>
		ional Wetland Site ID:	
Remarks: (Explain alternative procedures here or in a separate report.)			
The upland point is located within a recently cut hay field and is adjacent to a powerline corridor.			
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indic	ators (minimum of two required)
Primary Indicators (minimum of one is required; cl	neck all that apply)	· · · · · · · · · · · · · · · · · · ·	
	Water-Stained Leaves (B9)	Drainage Pa	
	Aquatic Fauna (B13)	Moss Trim L	
	Marl Deposits (B15)		Water Table (C2)
	Hydrogen Sulfide Odor (C1)	Crayfish Bui	rrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living	Roots (C3) Saturation V	/isible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or S	Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled S	Goils (C6) Geomorphic	Position (D2)
1 	Thin Muck Surface (C7)	Shallow Aqu	
	Other (Explain in Remarks)		aphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-Neutra	Il Test (D5)
Field Observations:			
	✓ Depth (inches):		
	✓ Depth (inches):		(O.)(
Saturation Present? Yes No (includes capillary fringe)	✓ Depth (inches):	Wetland Hydrology Prese	nt? Yes No✓_
Describe Recorded Data (stream gauge, monitoring	ng well, aerial photos, previous inspe	ctions), if available:	
Remarks:			
No wetland hydrology indicators v	vere observed.		
, 0,			

Tree Stratum (Plot size:)	Absolute	Dominan	t Indicator	Dominance Test worksheet:
1				Number of Dominant Species That Are OBL, FACW, or FAC:(A)
2				
3				Total Number of Dominant Species Across All Strata: 1 (B)
4.				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 0.00 (A/B)
6.				Prevalence Index worksheet:
7.				Total % Cover of: Multiply by:
		= Total Co		OBL species
Sapling/Shrub Stratum (Plot size:)				FACW species0 x 2 =0
1	_			FAC species0 x 3 =0
2				FACU species 30 x 4 = 120
3				UPL species
4				,,,
5				Prevalence Index = B/A = 4.71
6				Hydrophytic Vegetation Indicators:
7		-		1 - Rapid Test for Hydrophytic Vegetation
	0.0	= Total Co	over	2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size:5')				4 - Morphological Adaptations ¹ (Provide supporting
1. Bromus inermis	75	<u> </u>	UPL	data in Remarks or on a separate sheet)
2. <u>Poa pratensis</u>	15	N	<u>FACU</u>	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Phleum pratense		N	<u>FACU</u>	¹ Indicators of hydric soil and wetland hydrology must
4. <u>Taraxacum officinale</u>		N	<u>FACU</u>	be present, unless disturbed or problematic.
5. <u>Trifolium pratense</u>	5	N	<u>FACU</u>	Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7		-		at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				
12				Woody vines – All woody vines greater than 3.28 ft in height.
201	105	= Total Co	over	
Woody Vine Stratum (Plot size: 30')				
1				
2				
3				Hydrophytic Vegetation
4		= Total Co		Present? Yes No ✓
Remarks: (Include photo numbers here or on a separate		= Total Co		
Immediate area is dominated by smoot	h brome	e and h	ad been	recently hayed at the time of the field
survey.				

Sampling Point: wasa051_u

SOIL Sampling Point: wasa051_u

	cription: (Describe	to the dep	th needed to docun	nent the i	ndicator	or confirm	the absence of indicators.)			
Depth (inches)	Matrix Redox Features Color (moist) % Color (moist) % Type¹ Loc²						Texture Remarks			
0-10	10YR 3/2	100	Color (moist)	70	Турс		SCL			
	10YR 4/2						SIL			
10 10	10111 1/2	100								
										
	oncentration, D=Dep	letion, RM:	Reduced Matrix, MS	=Masked	Sand Gra	ains.	² Location: PL=Pore Lining, M=Matrix.			
Hydric Soil			Debarelus Baleu	Curtoso	(Co) /I DE	. D	Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (LRR K, L, MLRA 149B)			
Histosol	oipedon (A2)		Polyvalue Belov MLRA 149B)		(So) (LKF	κκ,	2 cm widek (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R)			
	stic (A3)		Thin Dark Surfa							
	en Sulfide (A4) d Layers (A5)		Loamy Mucky M Loamy Gleyed M			, L)	Dark Surface (S7) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L)			
Deplete	d Below Dark Surface	e (A11)	Depleted Matrix	(F3)	,		Thin Dark Surface (S9) (LRR K, L)			
	ark Surface (A12) Nucky Mineral (S1)		Redox Dark Sur Depleted Dark S		7)		<pre> Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B</pre>			
	Gleyed Matrix (S4)		Redox Depressi		1)		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
	Redox (S5)						Red Parent Material (F21)			
	I Matrix (S6) rface (S7) (LRR R, N	ILRA 149E	3)				Very Shallow Dark Surface (TF12) Other (Explain in Remarks)			
	f hydrophytic vegetat		tland hydrology mus	t be prese	ent, unless	disturbed	or problematic.			
Type:	Layer (if observed):									
	ches):						Hydric Soil Present? Yes No✓			
Remarks:							1			
No hydri	c soil indicator	s obse	rved.							



wasa051_u_E



wasa051_u_W

Project/Site: Line 5 Relocation Project City/	/County: Ashland Sampling Date: 2019-10-17
	State: WI Sampling Point: wasa052e_w1
Investigator(s): ARK/NTT Sec	tion, Township, Range: <u>046N-004W-06</u>
	elief (concave, convex, none): Concave Slope (%): 0-2%
	Long: <u>-90.911505</u> Datum: <u>WGS84</u>
	ercent slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year?	·
	urbed? Are "Normal Circumstances" present? Yes ✓ No
Are Vegetation, Soil, or Hydrology naturally problem	
SUMMARY OF FINDINGS – Attach site map showing sa	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes ✓ No	Is the Sampled Area
Hydric Soil Present? Yes ✓ No	within a Wetland? Yes No
Wetland Hydrology Present? Yes ✓ No	If yes, optional Wetland Site ID:
Remarks: (Explain alternative procedures here or in a separate report.) Swale feature within a hay field. The feature is pa	rt of a larger wetland complex.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained Leav	
High Water Table (A2) Aquatic Fauna (B13	
Saturation (A3) Marl Deposits (B15)	
Water Marks (B1) Hydrogen Sulfide O	
	eres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Presence of Reduct Algal Mat or Crust (B4) Recent Iron Reduct	
Iron Deposits (B5) Thin Muck Surface	
Indit Deposits (B5) Thin Muck Surface	
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	<u></u> 1710 Noutal 1001 (20)
Surface Water Present? Yes No _ ✓ Depth (inches):	
Water Table Present? Yes No _✓ Depth (inches):	
Saturation Present? Yes No _ ✓ Depth (inches):	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, principle of the control of	ravious inspections) if available:
Describe Recorded Data (stream gauge, monitoring well, aerial priotos, pi	evious inspections), ii available.
Remarks:	ragima. Watland includes a number of swels
Feature assumed to have a saturated hydrologic	regime. Wetland includes a number of swale
features within the hay field.	

7 00 (7)	Absolute			Dominance Test worksheet:
Tree Stratum (Plot size: 30')		Species?		Number of Dominant Species
1				That Are OBL, FACW, or FAC:1 (A)
2				Total Number of Dominant
3	_			Species Across All Strata:1 (B)
4	_			Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.00 (A/B)
6.				
				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0.0	= Total Co	ver	OBL species 2 x 1 = 2
Sapling/Shrub Stratum (Plot size: 15')				FACW species 95 x 2 = 190
1				FAC species 0 x 3 = 0
2	_			FACU species 0 x 4 = 0
3				UPL species 0 x 5 = 0
4.				Column Totals: <u>97</u> (A) <u>192</u> (B)
5				Prevalence Index = B/A = 1.98
6				Hydrophytic Vegetation Indicators:
				1 - Rapid Test for Hydrophytic Vegetation
7				✓ 2 - Dominance Test is >50%
	0.0	= Total Co	ver	✓ 3 - Prevalence Index is ≤3.0 ¹
Herb Stratum (Plot size: 5')	95	V	FACW	4 - Morphological Adaptations ¹ (Provide supporting
1. Phalaris arundinacea				data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)
2. <u>Juncus effusus</u>			OBL	1 Toblematic Hydrophytic Vegetation (Explain)
3				¹ Indicators of hydric soil and wetland hydrology must
4				be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6	_			Trace Manchemberts 2 in (7.0 and) as record in discretor
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9.				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
				of size, and woody plants less than 3.28 ft tall.
11		-		Woody vines – All woody vines greater than 3.28 ft in
12				height.
	97	= Total Co	ver	
Woody Vine Stratum (Plot size: 30')				
1				
2				
3				Hydrophytic
4.				Vegetation
		= Total Co	/er	Present? Yes <u>√</u> No
Remarks: (Include photo numbers here or on a separate s		= 10tai 00	VCI	
Dominated by reed canary grass. Vege	tation h	as beer	recent	ly cut.
, , , , ,				

Sampling Point: wasa052e_w1

SOIL Sampling Point: wasa052e_w1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)											
Depth		Matrix			Redo	x Features					
(inches)	Color (r	noist)	<u>%</u>	Color (n	noist)		Type ¹	Loc ²	Texture	Remarks	
0-4	<u>10YR</u>	2/2	100						CL		
4-18	5YR	4/3	85	7.5YR	5/6	15	С	М	С	Prominent redox	
						· ——					
						· ——					
¹Type: C=Co			etion, RM	=Reduced N	Matrix, MS	S=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix.	
Hydric Soil							(00) (1.5)			for Problematic Hydric Soils ³ :	
Histosol	(A1) pipedon (A2	1			lue Belo\ RA 149B)	w Surface	(S8) (LR	R R,		Muck (A10) (LRR K, L, MLRA 149B) Prairie Redox (A16) (LRR K, L, R)	
	stic (A3)	,			,		.RR R, M	LRA 149B)		Mucky Peat or Peat (S3) (LRR K, L, R)	
	n Sulfide (A	(4)				∕lineral (F1				Surface (S7) (LRR K, L)	
	d Layers (A				-	Matrix (F2)			alue Below Surface (S8) (LRR K, L)	
	d Below Dai		e (A11)		ed Matrix				Thin Dark Surface (S9) (LRR K, L)		
	ark Surface lucky Miner					rface (F6) Surface (F	7)		Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B)		
	Bleyed Matri					ions (F8)	,,		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
	ledox (S5)	(-)		_	.,	- (-,			Red Parent Material (F21)		
	Matrix (S6)								Very Shallow Dark Surface (TF12)		
Dark Su	rface (S7) (LRR R, M	ILRA 1491	3)					Other	(Explain in Remarks)	
3Indicators of	f hydronhyti	c vegetati	ion and w	atland hydro	loav mus	t ha nrase	ant unles	e dieturhad	or problemation	6	
Restrictive I		-	ion and w	-tiaria riyaro	logy mus	st be prese	int, unics	3 disturbed	T probleman	C.	
Type:	, (,									
	ches):								Hydric Soil	Present? Yes No	
Remarks:	Jilos)										
Red clay	below (dark cl	av loar	n							
l tou olay	80.011	J	ay loa.	• • •							
l											



wasa052e_w1_N



wasa052e_w1_S

Project/Site: Line 5 Relocation Project	City/County: Ashland Sampling Date: 2019-10-09
•	State: WI Sampling Point: wasa052e_w2
_	Section, Township, Range: 046N-004W-06
	cal relief (concave, convex, none): Concave Slope (%): 0-2%
	B Long: <u>-90.911964</u> Datum: <u>WGS84</u>
	percent slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of ye	
	disturbed? Are "Normal Circumstances" present? Yes ✓ No
Are Vegetation, Soil, or Hydrology naturally pro	
SUMMARY OF FINDINGS – Attach site map showing	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	Is the Sampled Area
Hydric Soil Present? Yes ✓ No	within a Wetland? Yes <u>√</u> No
Wetland Hydrology Present? Yes No	If yes, optional Wetland Site ID:
Remarks: (Explain alternative procedures here or in a separate report Most mondow component of a DEM DEO component of a DEM DEM DEO component of a DEM	t.)
Wet meadow component of a PEM-PFO comp	lex which exterios into a hay field.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
Surface Water (A1) Water-Stained	
High Water Table (A2) Aquatic Fauna	
Saturation (A3) Marl Deposits (
Water Marks (B1) Hydrogen Sulfid Sediment Deposits (B2) Oxidized Rhizo	de Odor (C1) Crayfish Burrows (C8) spheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Oxidized Kitizo Oxidized Kitizo Drift Deposits (B3) Presence of Re	
<u> </u>	duction in Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck Surf	
Inundation Visible on Aerial Imagery (B7) Other (Explain	· · · · · · · · · · · · · · · · · · ·
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No _ ✓ _ Depth (inches)	:
Water Table Present? Yes No _ ✓ Depth (inches)	:
Saturation Present? Yes _ ✓ No Depth (inches)	: <u>0-10</u> Wetland Hydrology Present? Yes No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photo	s, previous inspections), if available:
Remarks:	
Water perched above restrictive clay layer.	

VEGETATION – Use scientific names of plants.				Sampling Point: wasa052e_w2
Trac Otration (Districts 20)	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size:30') 1		Species?		Number of Dominant Species
				That Are OBL, FACW, or FAC: 2.0 (A)
2				Total Number of Dominant Species Across All Strata: 2.0 (B)
3				
4. 5.				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)
6.				
7				Prevalence Index worksheet:
		= Total Cov		OBL species <u>47.0</u> x1 = <u>47.0</u>
Sapling/Shrub Stratum (Plot size: 15')		- 10tai 00t	701	FACW species $82.0 \times 2 = 164.0$
1. Salix petiolaris	10.0	V	FACW	FAC species 0.0 x 3 = 0.0
2. Alnus incana				FACU species 10.0 x 4 = 40.0
				UPL species x 5 =
3				Column Totals: <u>139.0</u> (A) <u>251.0</u> (B)
4. 5.				Prevalence Index = B/A =1.8
6				Hydrophytic Vegetation Indicators:
				✓ 1 - Rapid Test for Hydrophytic Vegetation
7				∠ 2 - Dominance Test is >50%
F!	12.0	= Total Cov	/er	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5')	70.0	V	E 4 0 \ 4 \	4 - Morphological Adaptations ¹ (Provide supporting
1. Phalaris arundinacea	70.0		FACW	data in Remarks or on a separate sheet)
2. <u>Scirpus cyperinus</u>		_N_	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Carex lacustris</u>		_N_	OBL	¹ Indicators of hydric soil and wetland hydrology must
4. <u>Juncus effusus</u>		_N_	OBL	be present, unless disturbed or problematic.
5. <u>Solidago altissima</u>		<u>N</u>	<u>FACU</u>	Definitions of Vegetation Strata:
6. <i>Trifolium pratense</i>			<u>FACU</u>	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7. <u>Lycopus americanus</u>			OBL	at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
9				
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				Woody vines – All woody vines greater than 3.28 ft in
12				height.
Washa Visa Otasiana (Blateira)	127.0	= Total Cov	/er	
Woody Vine Stratum (Plot size: 30')				
1				
2				
3				Hydrophytic
4				Vegetation
		= Total Cov	/er	
Remarks: (Include photo numbers here or on a separate s Plot is located at the edge of standing e		nt veget:	ation to	the west, and a hay field with cut
vegetation to the east. Shrubs in this pl	_	_		
wetland as a whole.				and the series germ perment of the

SOIL Sampling Point: wasa052e_w2

Profile Desc	cription: (D	escribe t	o the dep	oth needed	to docun	nent the in	ndicator	or confirm	the absence	of indicators.)	
Depth (inches)	Color (r	Matrix moist)	%	Color (n		x Features %	Type ¹	_Loc ²	Texture	Remarks	
0-6	<u>10YR</u>	2/1	90	5YR	5/8	_10	С	_M_	CL	Prominent redox	
6-12	<u>10YR</u>	3/1	_70	7.5YR	4/6	_30	С	_M_	SCL	Prominent redox	
12-18	5YR	5/8	60	10YR	3/1	_40	С	_M_	С		
¹Type: C=C	oncentration	n, D=Depl					Sand Gr		² Location	n: PL=Pore Lining, M=Matrix.	
Histosol				Polyva	lue Belov	v Surface	(S8) (I RI	R.R.		Muck (A10) (LRR K, L, MLRA 149B)	
Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) 5 cm Mucky Peat or Loamy Mucky Mineral (F1) (LRR K, L) Dark Surface (S7) (In Stratified Layers (A5) Loamy Gleyed Matrix (F2) Polyvalue Below Surface (S7) (In Dark Surface (S7) (In Da							Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L) alue Below Surface (S8) (LRR K, L) Dark Surface (S9) (LRR K, L) Idanganese Masses (F12) (LRR K, L, R) Idanganese Masses (F12) (MLRA 149B) Spodic (TA6) (MLRA 144A, 145, 149B) Idarent Material (F21) Shallow Dark Surface (TF12) (Explain in Remarks)				
³ Indicators o		_	ion and w	eliano nyoro	logy mus	t be prese	ni, unies:	s disturbed t	л рговієттаці	C.	
Туре:				<u></u>							
Depth (in	ches):								Hydric Soil Present? Yes No		
Remarks: Loamy s	oils ove	r dens	e clay,	with sha	allow r	edox.					



wasa052e_w2_NW



wasa052e_w2_S

Project/Site: Line 5 Relocation Project	City/County: As	nland	Sampling Date: 2019-10-15
Applicant/Owner: Enbridge		State: WI	Sampling Point: wasa052f_w1
Investigator(s): ARK/NTT	Section, Township	o, Range: 046N-004W-()6
Landform (hillslope, terrace, etc.): Depression		=	
Subregion (LRR or MLRA): Northcentral Forests Lat:			
Soil Map Unit Name: Sanborg-Badriver com			
Are climatic / hydrologic conditions on the site typical for	or this time of year? Yes✓	No (If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology	significantly disturbed?	Are "Normal Circumstances" p	oresent? Yes No
Are Vegetation, Soil, or Hydrology		(If needed, explain any answe	
SUMMARY OF FINDINGS - Attach site m	ap showing sampling po	int locations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes✓	No Is the Sam	npled Area	
		/etland? Yes <u>√</u>	No
Wetland Hydrology Present? Yes✓	No If yes, option	onal Wetland Site ID:	
Remarks: (Explain alternative procedures here or in a			
Hardwood swamp at edge of hay fie	id. Part of a PEIVI-PFO	complex.	
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indica	ators (minimum of two required)
Primary Indicators (minimum of one is required; check	call that apply)	Surface Soil	Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Pa	tterns (B10)
	Aquatic Fauna (B13)	Moss Trim Li	ines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry-Season	Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burn	rows (C8)
	Oxidized Rhizospheres on Living	Roots (C3) Saturation Vi	sible on Aerial Imagery (C9)
	Presence of Reduced Iron (C4)		tressed Plants (D1)
	Recent Iron Reduction in Tilled S		
1 — · · · · · —	Thin Muck Surface (C7)	Shallow Aqui	
	Other (Explain in Remarks)	Microtopogra	
Sparsely Vegetated Concave Surface (B8) Field Observations:		FAC-Neutral	Test (D5)
	Depth (inches):		
	Depth (inches):		
	Depth (inches):	Wetland Hydrology Preser	nt? Yes <u>√</u> No
(includes capillary fringe)			it: 163 <u>v</u> 110
Describe Recorded Data (stream gauge, monitoring w	vell, aerial photos, previous inspec	tions), if available:	
Remarks:			
Saturated recharge wetland.			

/EGETATION – Use scientific names of plants				Sampling Point: wasa052f_w1				
Tree Stratum (Plot size: 30')	Absolute % Cover		t Indicator Status	Dominance Test worksheet:				
1. <u>Populus tremuloides</u>				Number of Dominant Species That Are OBL, FACW, or FAC: (A)				
2.				Total Number of Dominant Species Across All Strata: 3 (B)				
3 I				Percent of Dominant Species				
5.				That Are OBL, FACW, or FAC: 100.00 (A/B)				
5				Prevalence Index worksheet:				
7				Total % Cover of: Multiply by:				
	50	= Total Co	over	OBL species x 1 = 50				
Sapling/Shrub Stratum (Plot size:)				FACW species 12 x 2 = 24				
ı. <u>Alnus incana</u>	10	Y	FACW	FAC species x 3 = 150				
2				FACU species <u>5</u> x 4 = <u>20</u>				
3.				UPL species 0 x 5 = 0				
i.				Column Totals:117 (A)244 (B)				
5.				Prevalence Index = B/A =2.09				
S				Hydrophytic Vegetation Indicators:				
7.				1 - Rapid Test for Hydrophytic Vegetation				
		= Total Co		✓ 2 - Dominance Test is >50%				
F!		= 10tal CC	vei	3 - Prevalence Index is ≤3.0 ¹				
Herb Stratum (Plot size: 5') 1. <u>Calamagrostis canadensis</u>	50	<u>Y</u>	OBL	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)				
2. <u>Fragaria virginiana</u>		Ν	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)				
3. <u>Dryopteris carthusiana</u>			FACW	¹ Indicators of hydric soil and wetland hydrology must				
4				be present, unless disturbed or problematic.				
5				Definitions of Vegetation Strata:				
5 7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.				
3				Sapling/shrub – Woody plants less than 3 in. DBH				
)				and greater than or equal to 3.28 ft (1 m) tall.				
10 11				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.				
12.				Woody vines – All woody vines greater than 3.28 ft in				
	_57	= Total Co	over	height.				
Noody Vine Stratum (Plot size:)								
1								
2								
3				Hydrophytic				
4				Vegetation Present? Yes No				
	0.0	= Total Co	over	Tresent: Tes No				
Remarks: (Include photo numbers here or on a separate Wet-to-mesic forested with a canopy o	sheet.) f aspen,	but bla	ick ash i	s also present in the wetland.				

SOIL Sampling Point: wasa052f_w1

Profile Des	cription: (D	escribe 1	to the dep	th needed	to docun	nent the i	ndicator	or confirm	the absence	e of indicators.)		
Depth		Matrix	0/	Calar (a		x Features		Taratrana	Demonto			
(inches)	Color (r		<u>%</u>	Color (n	10IST)	%	Type'	_Loc ²	Texture	<u>Remarks</u>		
0-6	10YR	·	100						CL			
6-18	<u>5YR</u>	4/3	90	<u>7.5YR</u>	5/6	_10_	<u>C</u>	_M_	C	Prominent redox		
						-						
						-						
¹ Type: C=C	oncentration	n, D=Depl	etion, RM	=Reduced N	Matrix, MS	S=Masked	Sand Gr	ains.	² Location	n: PL=Pore Lining, M=Matrix.		
Hydric Soil	Indicators:	•							Indicators	for Problematic Hydric Soils ³ :		
Histoso		`		-		v Surface	(S8) (LR I	RR,		Muck (A10) (LRR K, L, MLRA 149B)		
	pipedon (A2 istic (A3))			RA 149B) ark Surfa		.RR R. M	LRA 149B)		Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R)		
Hydroge	en Sulfide (A			Loamy	Mucky N	lineral (F1) (LRR K		Dark S	Surface (S7) (LRR K, L)		
	d Layers (A5 d Below Dar		. (Δ11)		Gleyed I ed Matrix	Matrix (F2))		Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L)			
-	ark Surface		(A11)			face (F6)			Inin Dark Surface (59) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R)			
Sandy N	Mucky Miner	al (S1)		Deplet	ed Dark S	Surface (F	7)		Piedmont Floodplain Soils (F19) (MLRA 149B)Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
-	Gleyed Matri	x (S4)		Redox	Depress	ions (F8)						
-	Redox (S5) d Matrix (S6)								Red Parent Material (F21) Very Shallow Dark Surface (TF12)			
	ırface (S7) (I		ILRA 149	В)						(Explain in Remarks)		
³ Indicators o	of hydrophyti	c vegetat	ion and w	etland hydro	logy mus	t be prese	ent, unles	s disturbed	or problemati	C.		
Restrictive		-				· ·						
Туре:												
	iches):								Hydric Soi	I Present? Yes No		
Remarks:	m over r	مط مام	M									
Clay loa	iii ovei i	eu cia	у.									



wasa052f_w1_N



wasa052f_w1_S

Project/Site: Line 5 Relocation Project	City/County: Ashl:	and	Sampling Date: 2019-10-09
Applicant/Owner: Enbridge			
Investigator(s): ARK/MAL			
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests Lat: 46			
Soil Map Unit Name: Sanborg-Badriver comple			
Are climatic / hydrologic conditions on the site typical for thi			
Are Vegetation, Soil, or Hydrologys			
Are Vegetation, Soil, or Hydrology i			
SUMMARY OF FINDINGS – Attach site map	showing sampling point	t locations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes✓ N	No Is the Sampl	ed Area	
Hydric Soil Present? Yes ✓ N	141 1 104 4	land? Yes <u>√</u>	No
Wetland Hydrology Present? Yes ✓ N		al Wetland Site ID:	
Remarks: (Explain alternative procedures here or in a se		DEO compley	
Young trees and shrubs at edge of hay	TILEIU. FAIT OI A FEIVI-I	PPO complex.	
HYDROLOGY			
Wetland Hydrology Indicators:		•	tors (minimum of two required)
Primary Indicators (minimum of one is required; check all			
	ter-Stained Leaves (B9)	Drainage Pat	
	uatic Fauna (B13)	Moss Trim Li	
	rl Deposits (B15) drogen Sulfide Odor (C1)	•	Water Table (C2)
	dized Rhizospheres on Living Ro	Crayfish Burr	sible on Aerial Imagery (C9)
	sence of Reduced Iron (C4)		tressed Plants (D1)
1 — · · · · · —	cent Iron Reduction in Tilled Soils		
	n Muck Surface (C7)	✓ Shallow Aqui	
<u> </u>	er (Explain in Remarks)	Microtopogra	
Sparsely Vegetated Concave Surface (B8)	,	FAC-Neutral	
Field Observations:			
Surface Water Present? Yes No ✓ _ De	epth (inches):		
Water Table Present? Yes _ ✓ No De	pth (inches): <u>4-12</u>		
Saturation Present? Yes _ ✓ No De	pth (inches): <u>4-12</u>	Wetland Hydrology Presen	t? Yes/ No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well,	aerial photos, previous inspectic	ons), if available:	
		,	
Damada			
Remarks: Saturated recharge wetland. Restrictive	e clay laver perching v	water above.	
Cataratea reenalge wettanan reestitett	s day layer perering t	mater above.	

/EGETATION – Use scientific names of plants				Sampling Point: wasa052f_w2
Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	t Indicator Status	Dominance Test worksheet:
1. Populus tremuloides	40.0	Y	FAC	Number of Dominant Species That Are OBL, FACW, or FAC:4(A)
2. <u>Abies balsamea</u>	20.0	Υ	FAC	
3. Fraxinus pennsylvanica			FACW	Total Number of Dominant Species Across All Strata:4 (B)
4. <u>Acer rubrum</u>			FAC	Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	64	= Total Co	ver	OBL species5 x 1 =5
Sapling/Shrub Stratum (Plot size:)				FACW species57 x 2 =114
1. <u>Alnus incana</u>	30.0	Y	<u>FACW</u>	FAC species69 x 3 =207
2. <u>Ilex verticillata</u>			<u>FACW</u>	FACU species 0 x 4 = 0
3. <u>Frangula alnus</u>	_5.0_	N	FAC	UPL species $0 \times 5 = 0$
4				Column Totals:131 (A)326 (B)
5				Prevalence Index = B/A = 2.49
6.				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Co	ver	∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size: 5')				3 - Prevalence Index is ≤3.0¹
1. Rubus pubescens	15.0	Υ	FACW	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. <u>Carex intumescens</u>		N	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Calamagrostis canadensis			OBL	
4. Symphyotrichum lateriflorum				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				
6.				Definitions of Vegetation Strata:
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8.				
9.				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
	27	= Total Co	ver	height.
Woody Vine Stratum (Plot size:30')				
1				
2.				
3				Hydrophytic
4.				Vegetation
		= Total Co	ver	Present? Yes ✓ No
Remarks: (Include photo numbers here or on a separate Sample plot is representative of most cin some canopy gaps. Black ash is also	of the PF			ne wetland. Speckled alder is dominant plot.

SOIL Sampling Point: wasa052f_w2

Profile Des	cription: (Describe t	o the de	oth needed	to docun	nent the i	indicator	or confirm	the absence	of indicators.)	
Depth	Matrix				x Feature:			_		
(inches)	Color (moist)		Color (n	noist)	<u>%</u>	Type ¹	Loc ²	Texture	Remarks	
0-3	7.5YR 3/3	100						CL		
3-12	7.5YR 4/3	85	<u>7.5YR</u>	5/8	<u> 15</u>	C	_M_	CL	Prominent redox	
12-18	7.5YR 4/3	_60	<u>7.5YR</u>	5/8	_20		_M_	C	Prominent redox	
12-18			5YR	5/6	_20	<u>C</u>	_M_	C		
					-					
						· ——				
						· ——				
¹ Type: C=C Hydric Soil	oncentration, D=Depl	etion, RM	=Reduced N	Matrix, MS	S=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils ³ :	
Histoso			Polyva	alue Belov	w Surface	(S8) (LRI	R R.		Muck (A10) (LRR K, L, MLRA 149B)	
Histic E	pipedon (A2)		MLF	RA 149B)				Coast	Prairie Redox (A16) (LRR K, L, R)	
	istic (A3) en Sulfide (A4)				ice (S9) (I ⁄lineral (F		LRA 149B)		Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L)	
	d Layers (A5)			-	Matrix (F2		., ∟)		alue Below Surface (S8) (LRR K, L)	
	d Below Dark Surface	e (A11)		ed Matrix					Dark Surface (S9) (LRR K, L)	
	ark Surface (A12) Mucky Mineral (S1)				rface (F6) Surface (F				langanese Masses (F12) (LRR K, L, R) nont Floodplain Soils (F19) (MLRA 149B)	
	Gleyed Matrix (S4)			Depress		')		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
	Redox (S5)							✓ Red Parent Material (F21)		
	d Matrix (S6) urface (S7) (LRR R, M	ILRA 149	В)						Shallow Dark Surface (TF12) (Explain in Remarks)	
³ Indicators of	of hydrophytic vegetati	ion and w	etland hydro	ology mus	t be prese	ent, unles	s disturbed	or problemati	c.	
Restrictive	Layer (if observed):									
Type:										
	ches):							Hydric Soil	I Present? Yes/ No	
Remarks:	m over dense	clav w	th redox	,						
Clay loa	in over dense	ciay w	illi icaox	٧.						
Ì										



wasa052f_w2_N



wasa052f_w2_S

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name:	Evaluator(s):		
Line 5 Relocation Project	NTT/DGL		
File #:	Date of visit(s):		
wasa052	09/10/2019		
Location:	Ecological Landsca	ipe:	
PLSS: <u>046N-004W-06</u>	Superior Coastal Plain		
	Ouperior Obastai Fiairi		
Lat: 46.49317223 Long: -90.9121611	Watershed: LS10 White River		
County: Ashland Town/City/Village: White River town			
SITE DESCRIPTION			
Soils:	WWI Class:		
Mapped Type(s):	T3/5Kr, T5/S3Kr		
580B, 226A, 756B, Sanborg-Badriver complex, 0 to 6 percent slopes, Allendale loamy fine sand, 0 to 3 percent slopes, Superior-Sedqwick complex, 0 to 6 percent slopes	Wetland Type(s):		
sand, o to 3 percent slopes, Superior-Seugwick complex, o to 6 percent slopes	PEM- Fresh wet meadow, PFO - Hardwood swamp		
Field Verified:		•	
Series not verified. The soils consist of a clay	Wetland Size:	Wetland Area Impacted	
loam over a sandy clay loam over a clay.	3.18	3.18	
	Vegetation:		
	Plant Community D	escription(s):	
Hydrology:	•	omplex that includes a wet	
Seasonally saturated based on FAC-Neutral test		ayfield and an adjacent hardwood	
and geomorphic position.		py dominated by quaking aspen	
g p		vith speckled alder.	

SITE MAP		

SECTION 1: Functional Value Assessment

			Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Υ	Y	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
5	N	N	In or adjacent to RED FLAG areas
			List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7			In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	Υ	Υ	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	Υ	Υ	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7		V	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
'	Υ	Y	plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present > 45 days
10	Ν	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
11	Ν	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	NA	NA	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2	N. 1. 0		Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
	NA	NA	water levels or high flows – if no, not applicable
3	NA	NA	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	V	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2		Υ	
3	Ν		Water flow through wetland is NOT channelized
9	N Y	N Y	
4	Υ	N	Water flow through wetland is NOT channelized
$\overline{}$	Y N	N Y	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology
4	Y N N	N Y N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow
4 5	Y N	N Y N N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland
4 5 6	Y N N	N Y N N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed
4 5 6 7	Y N N N	N Y N N N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland
4 5 6 7 8	Y N N N	N Y N N N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
4 5 6 7 8 WQ	Y N N N N	N Y N N N N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection
4 5 6 7 8 WQ	Y N N N N	N Y N N N N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section
4 5 6 7 8 WQ 1 2	Y N N N N N N	N Y N N N N N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet
4 5 6 7 8 WQ 1 2 3	Y N N N N N N	N Y N N N N N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream
4 5 6 7 8 WQ 1 2 3 4 5	Y N N N N N N N N N Y	N Y N N N N N N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation
4 5 6 7 8 WQ 1 2 3 4 5 6	Y N N N N N N N N N N N N N N N N N N N	N Y N N N N N N N N N N N N N N N N N N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
4 5 6 7 8 WQ 1 2 3 4 5 6 7	Y N N N N N N N N N N N N N N N N N N N	N Y N N N N N N N N N N N N N N N N N N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source
4 5 6 7 8 WQ 1 2 3 4 5 6 7	Y N N N N N N N N N N N N N N N N N N N	N Y N N N N N N N N N N N N N N N N N N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water
4 5 6 7 8 WQ 1 2 3 4 5 6 7 8	Y N N N N N N N N N N N N N N N N N N N	N Y N N N N N N N N N N N N N N N N N N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50%
4 5 6 7 8 WQ 1 2 3 4 5 6 7 8 9 GW	Y N N N N N N N N N N N N N N N N N N N	N Y N N N N N N N N N N N N N N N N N N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes
4 5 6 7 8 WQ 1 2 3 4 5 6 7 8 9 GW	Y N N N N N N N N N N N N N N N N N N N	N Y N N N N N N N N N N N N N N N N N N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present
4 5 6 7 8 WQ 1 2 3 4 5 6 7 8 9 GW	Y	N Y N N N N N N N N N N N N N N N N N N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland
4 5 6 7 8 WQ 1 2 3 4 5 6 7 8 9 GW 1 2	Y	N Y N N N N N N N N N N N N N N N N N N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland Wetland remains saturated for an extended time period with no additional water inputs
4 5 6 7 8 WQ 1 2 3 4 5 6 7 8 9 GW	Y	N Y N N N N N N N N N N N N N N N N N N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland

Wi	Idlife Habita	at and Species Observation (including amphibians and reptiles)
	st: direct ob nter, etc.	oservation, tracks, scat, other sign; type of habitat: nesting, migratory,
Observed		Charles II labitati Cammanta
Observed	Potential Y	Species/Habitat/Comments White-tailed deer
Υ	Y	Songbirds
·	Y	Frogs
	•	
Eio	h and Agus	stic Life Hebitet and Checine Observations
		atic Life Habitat and Species Observations oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observed	Potential	Species/Habitat
	Υ	Invertebrates

Section 1 Comments (Refer to Section 1 numbers)

WH6- large hardwood swamp that continues into a cut hayfield with a wet meadow component.

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4/	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
Salix petiolaris			PEM	Uncommon
Alnus incana			PEM	Uncommon
Phalaris arundinacea			PEM	Common
Carex lacustris			PEM	Uncommon
Scirpus cyperinus			PEM	Common
Juncus effusus			PEM	Uncommon
Solidago canadensis			PEM	Uncommon
Trifolium pratense			PEM	Uncommon
Lycopus americanus			PEM	Uncommon
Populus tremuloides			PFO	Common
Abies balsamea	balsam fir		PFO	Common
Fraxinus pennsylvanica			PFO	Uncommon
Acer rubrum			PFO	Uncommon
Alnus incana			PFO	Common
llex verticillata			PFO	Uncommon
Frangula alnus			PFO	Uncommon
Rubus pubescens			PFO	Uncommon
Carex intumescens			PFO	Uncommon
Calamagrostis canadensis			PFO	Uncommon
Symphyotrichum lateriflorum			PFO	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

Moderate floristic integrity. Fairly diverse hardwood swamp that is dominated by native species, but the wet meadow component is dominated by reed canary grass with common pasture grasses and weedy annuals throughout the hay field.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
` ,					Filling, berms (non-impounding)
	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
X	Х		M	С	Agriculture – hay
					Agriculture – pasture
X	Х		L	С	Roads or railroad
	Х		L	С	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
V	Х		М		Removal of herbaceous stratum – mowing,
X	^		IVI	С	grading, earthworms, etc.
	Х		L	С	Removal of tree or shrub strata – logging,
	^		L	C	unprescribed fire
	Χ		L	С	Human trails – unpaved
					Human trails – paved
	Χ		L	С	Removal of large woody debris
Χ	Χ		M	С	Cover of non-native and/or invasive species
	Χ		L	С	Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

Wetland complex associated with a hayfield that is dominated by non-native species. The forested component has
been disturbed in the past.

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity		✓			
Human Use Values	√				
Wildlife Habitat		✓			
Fish and Aquatic Life Habitat	√				
Shoreline Protection					1
Flood and Stormwater Storage	√				
Water Quality Protection	√				
Groundwater Processes	√				

FUNCTION	RATIONALE
Floristic Integrity	Fair diversity due to PEM and PFO components
Human Use Values	Potential for hunting in the PFO
Wildlife Habitat	Contains three strata and is near river corridor
Fish and Aquatic Life Habitat	No water present in wetland
Shoreline Protection	N/A
Flood and Stormwater Storage	Holds runoff from hayfield
Water Quality Protection	Dense, fairly intact vegetation
Groundwater Processes	Majority of input is from precipitation events

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

Project/Site: Line 5 Relocation Project	City/County: As	n land s	ampling Date: 2019-10-17	
Applicant/Owner: Enbridge		State: WI	Sampling Point: wasa052e_u1	
Investigator(s): ARK/NTT	Section, Township	o, Range: <u>046N-004W-06</u>		
Landform (hillslope, terrace, etc.): Talf				
Subregion (LRR or MLRA): Northcentral Forests Lat: 46				
Soil Map Unit Name: Sanborg-Badriver comple				
Are climatic / hydrologic conditions on the site typical for th				
Are Vegetation _ ✓ , Soil, or Hydrology	•			
Are Vegetation, Soil, or Hydrology				
SUMMARY OF FINDINGS – Attach site map				
SUMMART OF FINDINGS - Attach site map			important reatures, etc.	
Hydrophytic Vegetation Present? Yes N			No. /	
Hydric Soil Present? Yes N	NO		No <u>√</u>	
Wetland Hydrology Present? Yes N Remarks: (Explain alternative procedures here or in a se		onal Wetland Site ID:		
The upland point is located within a ha	у пеіа.			
HYDROLOGY				
Wetland Hydrology Indicators:			rs (minimum of two required)	
Primary Indicators (minimum of one is required; check all				
	ter-Stained Leaves (B9)	Drainage Patterns (B10)		
	uatic Fauna (B13)	Moss Trim Lines (B16)		
	rl Deposits (B15)	Dry-Season Water Table (C2)		
	drogen Sulfide Odor (C1) dized Rhizospheres on Living	Crayfish Burrows (C8)		
	esence of Reduced Iron (C4)			
	cent Iron Reduction in Tilled S	Soils (C6) Stunted or Stressed Plants (D1) Soils (C6) Geomorphic Position (D2)		
	n Muck Surface (C7)	Shallow Aquitard (D3)		
	ner (Explain in Remarks)	Microtopograph		
Sparsely Vegetated Concave Surface (B8)	- · · (= · μ · · · · · · · · · · · · · · · · ·	FAC-Neutral Te		
Field Observations:		<u>—</u>	, ,	
Surface Water Present? Yes No _ ✓ De	epth (inches):			
	epth (inches):			
Saturation Present? Yes No _✓ De	epth (inches):	Wetland Hydrology Present?	Yes No <u></u> ✓	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well,	aerial photos, previous inspec	tions), if available:		
		,,		
Remarks: No wetland hydrology indicators were	obsorved			
The welland flydrology indicators were	Juseiveu.			

						52e_u
Tree Stratum (Plot size:30')	Absolute % Cover			Dominance Test worksheet:		
·				Number of Dominant Species That Are OBL, FACW, or FAC:	0	(A)
				Total Number of Dominant		
i					1	(B)
k				Percent of Dominant Species		
5				That Are OBL, FACW, or FAC:	0.00	(A/B
5				Prevalence Index worksheet:		
⁷				Total % Cover of: N	fultiply by:	
	0.0_=	= Total Co	ver	OBL species0 x 1 =		
Sapling/Shrub Stratum (Plot size: 15')				FACW species 0 x 2 =		
				FAC species 0 x 3 = FACU species 92 x 4 =		
				UPL species x 5 =		
k				Column Totals: 107 (A)		
k				Prevalence Index = B/A =		_
i				Hydrophytic Vegetation Indicator		
				1 - Rapid Test for Hydrophytic \ 2 - Dominance Test is >50%	/egetation	
	0.0	= Total Co	ver	3 - Prevalence Index is ≤3.0 ¹		
Herb Stratum (Plot size:5')				4 - Morphological Adaptations ¹	(Provide sup	portin
. Poa pratensis		<u>Y</u>	<u>FACU</u>	data in Remarks or on a sep	arate sheet)	
Bromus inermis	15	N	<u>UPL</u>	Problematic Hydrophytic Vegeta	ation¹ (Expla	in)
3. <u>Trifolium repens</u>	10	N	FACU	¹ Indicators of hydric soil and wetland	d bydrology i	muet
. <u>Taraxacum officinale</u>	5	N	FACU	be present, unless disturbed or problematic.		
s. <u>Phleum pratense</u>	2	N	<u>FACU</u>	Definitions of Vegetation Strata:		
S				Tree – Woody plants 3 in. (7.6 cm)	or more in di	amete
,				at breast height (DBH), regardless of		arrioto
3				Sapling/shrub – Woody plants less	than 3 in. D	вн
)				and greater than or equal to 3.28 ft	(1 m) tall.	
10				Herb - All herbaceous (non-woody)		ırdless
1				of size, and woody plants less than	3.28 ft tall.	
2				Woody vines – All woody vines gre height.	ater than 3.2	28 ft in
	<u> 107</u> :	= Total Co	ver	noight.		
Voody Vine Stratum (Plot size: 30')						
2						
3				Hydrophytic		
4				Vegetation Present? Yes	No <u>√</u>	
	$\cap \cap$	= Total Co	ver			

SOIL Sampling Point: wasa052e_u1

Profile Des	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of indicat	tors.)
Depth	Matrix			x Features	4	1.2.2	Tarakana	Damada
(inches)	Color (moist) 10YR 3/2	100	Color (moist)	%	Type'	Loc ²	SCL Texture	Remarks
8-18							Cl	
0-10	7.511X 3/3	100						
		-		·				
		-						
Type: C=C Hydric Soil	oncentration, D=Depl	letion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	² Location: PL=Pore	e Lining, M=Matrix. ematic Hydric Soils ³ :
Histoso			Polyvalue Belov	w Surface	(S8) (LRF	RR,		(LRR K, L, MLRA 149B)
Histic E	pipedon (A2)	•	MLRA 149B)				Coast Prairie Re	dox (A16) (LRR K, L, R)
	istic (A3) en Sulfide (A4)		Thin Dark Surfa Loamy Mucky N				5 cm Mucky Pea Dark Surface (S7	t or Peat (S3) (LRR K, L, R)
	d Layers (A5)		Loamy Gleyed			, =/		Surface (S8) (LRR K, L)
-	d Below Dark Surface	e (A11)	Depleted Matrix					e (S9) (LRR K, L)
	ark Surface (A12) Mucky Mineral (S1)	•	Redox Dark Su Depleted Dark S		·7)		_	Masses (F12) (LRR K, L, R) blain Soils (F19) (MLRA 149B)
-	Gleyed Matrix (S4)		Redox Depress		,,			A6) (MLRA 144A, 145, 149B)
-	Redox (S5)						Red Parent Mate	
	d Matrix (S6) urface (S7) (LRR R, N	ILRA 149B)				Very Shallow Da Other (Explain in	rk Surface (TF12) Remarks)
	of hydrophytic vegetat		tland hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
	Layer (if observed):							
Type:	oppos):						Hydric Soil Present?	Yes No _ ✓
Remarks:	ches):						11,4110 00111 1000111	
	c soil indicator	s obser	ved.					



wasa052e_u1_N



wasa052e_u1_S

Project/Site: Line 5 Relocation Project	City/County: Ash	ı <mark>land</mark> s	ampling Date: <u>2019-10-09</u>				
Applicant/Owner: Enbridge		State: WI	Sampling Point: wasa052e_u2				
Investigator(s): ARK/MAL	Section, Township	, Range: <u>046N-004W-06</u>					
	Local relief (concave, convex, none): None Slope (%): 0-2%						
Subregion (LRR or MLRA): Northcentral Forests Lat: 46							
Soil Map Unit Name: Sanborg-Badriver comple							
Are climatic / hydrologic conditions on the site typical for thi	s time of year? Yes N	lo (If no, explain in Rem	narks.)				
Are Vegetation, Soil, or Hydrologys	significantly disturbed?	Are "Normal Circumstances" pres	sent? Yes No				
Are Vegetation, Soil, or Hydrologyr	naturally problematic? (If needed, explain any answers i	n Remarks.)				
SUMMARY OF FINDINGS – Attach site map	showing sampling poir	nt locations, transects, in	mportant features, etc.				
Hydrophytic Vegetation Present? Yes N	ls the Sam						
Hydric Soil Present? Yes ✓ N	lo within a We	etland? Yes	No <u>√</u>				
Wetland Hydrology Present? Yes N		nal Wetland Site ID:					
Remarks: (Explain alternative procedures here or in a sell Upland sample point recorded in a hay	parate report.)						
Opidita sample point recorded in a may	neiu.						
HYDROLOGY							
Wetland Hydrology Indicators:		•	s (minimum of two required)				
Primary Indicators (minimum of one is required; check all		Surface Soil Cra	, ,				
	ter-Stained Leaves (B9)	Drainage Patter					
	uatic Fauna (B13)	Moss Trim Lines					
	T Deposits (B15)	Dry-Season Water Table (C2) Crayfish Burrows (C8)					
	drogen Sulfide Odor (C1) dized Rhizospheres on Living F						
	sence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)					
	cent Iron Reduction in Tilled So						
	n Muck Surface (C7)	Shallow Aquitar					
	er (Explain in Remarks)	Microtopograph					
Sparsely Vegetated Concave Surface (B8)	,	FAC-Neutral Te					
Field Observations:							
Surface Water Present? Yes No✓ De	epth (inches):						
Water Table Present? Yes No _ ✓ De	pth (inches):						
	epth (inches):	Wetland Hydrology Present?	Yes No <u></u> ✓				
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well,	aerial photos, previous inspect	ions). if available:					
	,						
Remarks: No indicators of wetland hydrology wer	e observed						
The malacions of welland myarology well	C Obscived.						

T. O (D	Absolute		t Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)			Status_	Number of Dominant Species
1				That Are OBL, FACW, or FAC:(A)
2		-		Total Number of Dominant
3	<u> </u>			Species Across All Strata: (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 0.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0	= Total Co	over	OBL species 0 x 1 = 0
Sapling/Shrub Stratum (Plot size:)				FACW species0 x 2 =0
1				FAC species0 x 3 =0
2				FACU species55 x 4 =220
3				UPL species50 x 5 =250
				Column Totals: <u>105</u> (A) <u>470</u> (B)
4				Prevalence Index = B/A = 4.48
6				Hydrophytic Vegetation Indicators:
				1 - Rapid Test for Hydrophytic Vegetation
7		= Total Co		2 - Dominance Test is >50%
Harb Chrahima (Plataina) 5'		= Total CC	over	3 - Prevalence Index is ≤3.0 ¹
Herb Stratum (Plot size: 5') 1. Bromus inermis	50	Υ	UPL	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Poa pratensis		Y	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Dactylis glomerata		N	FACU	
4. Trifolium pratense			FACU	¹ Indicators of hydric soil and wetland hydrology must
·	_			be present, unless disturbed or problematic.
5. Lotus corniculatus		N	FACU	Definitions of Vegetation Strata:
6. <u>Taraxacum officinale</u>			<u>FACU</u>	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9	_		 	and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	105	= Total Co	over	height.
Woody Vine Stratum (Plot size: 30'				
1				
2				
3				Hydrophytic
4				Vegetation
	_	= Total Co	over	Present? Yes No✓
Remarks: (Include photo numbers here or on a separate				
Hay field dominated by pasture grasse	S.			

Sampling Point: wasa052e_u2

SOIL Sampling Point: wasa052e_u2

Profile Desc	cription: (Describe	to the de	oth needed	to docur	nent the i	ndicator	or confirm	the absence	of indicators.)	
Depth	Matrix		0-1		x Feature:		12	T d	Description	
(inches)	Color (moist) 7.5YR 3/3	100	Color (n	noist)	%	Type ¹	Loc ²	Texture	Remarks	
			7 EVD	E/0	10	С			Draminant raday	
3-12	7.5YR 3/3	90							Prominent redox	
12-18	<u>5YR 5/6</u>	_80_	<u>7.5YR</u>	5/8	_20_	<u>C</u>	_M_		Prominent redox	
						-				
					·					
1								2		
'Type: C=C Hydric Soil	oncentration, D=Dep	letion, RM	=Reduced N	Matrix, MS	S=Masked	I Sand Gr	ains.		n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils ³ :	
Histosol			Polyva	lue Belov	w Surface	(S8) (LR	R R,		Muck (A10) (LRR K, L, MLRA 149B)	
Histic E	oipedon (A2)		MLF	RA 149B))			Coast	Prairie Redox (A16) (LRR K, L, R)	
	istic (A3) en Sulfide (A4)				ice (S9) (I ⁄Iineral (F		LRA 149B)		Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L)	
	d Layers (A5)			-	Matrix (F2		·, - /		alue Below Surface (S8) (LRR K, L)	
	d Below Dark Surface	e (A11)		ed Matrix					Dark Surface (S9) (LRR K, L)	
	ark Surface (A12) Nucky Mineral (S1)				rface (F6) Surface (F				langanese Masses (F12) (LRR K, L, R) nont Floodplain Soils (F19) (MLRA 149B)	
	Gleyed Matrix (S4)				ions (F8)	• /		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
	Redox (S5)							✓ Red Parent Material (F21) ✓ Very Shallow Dark Surface (TF12) ✓ TF12 ✓ TF12		
	l Matrix (S6) rface (S7) (LRR R, N	ILRA 149	В)					Other (Explain in Remarks)		
	f hydrophytic vegetat		etland hydro	logy mus	st be prese	ent, unles	s disturbed	or problemati	c.	
	Layer (if observed):									
Type:								Unalpia Cail	I Dracoust 2 Vec / No	
	ches):							Hydric Soil	Present? Yes/ No	
Remarks:	redox in lowe	er lavei	'S							
Olay With	i iodox iii iow	or layor	0.							



wasa052e_u2_E



wasa052e_u2_S

Project/Site: Line 5 Relocation Project	City/County: As	hland	Sampling Date: 2019-10-15				
•							
<u> </u>	Section, Township, Range: 046N-004W-06						
Landform (hillslope, terrace, etc.): Talf							
Subregion (LRR or MLRA): Northcentral Forests							
Soil Map Unit Name: Sanborg-Badriver co							
Are climatic / hydrologic conditions on the site typical							
Are Vegetation ✓, Soil, or Hydrology _							
Are Vegetation, Soil, or Hydrology _							
SUMMARY OF FINDINGS – Attach site	e map showing sampling po	int locations, transects	s, important features, etc.				
Hydrophytic Vegetation Present? Yes		npled Area					
	NO <u> </u>	Vetland? Yes	No/				
		onal Wetland Site ID:					
Remarks: (Explain alternative procedures here or The upland point is located within	in a separate report.) a hay field Field has be	en recently haved					
The apiana point is located within	a nay noia. I loia nao bo	on recently hayed.					
HYDROLOGY		Canadam, India	atoma (raining up of the magnined)				
Wetland Hydrology Indicators:		·	ators (minimum of two required)				
Primary Indicators (minimum of one is required; ch		Surface Soil Cracks (B6) Drainage Patterns (B10)					
	Water-Stained Leaves (B9)Aquatic Fauna (B13)	Moss Trim Lines (B16)					
	Marl Deposits (B15)	Dry-Season Water Table (C2)					
	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)					
	Oxidized Rhizospheres on Living	Roots (C3) Saturation \	/isible on Aerial Imagery (C9)				
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or S	Stressed Plants (D1)				
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled S	oils (C6) Geomorphic	Position (D2)				
	Thin Muck Surface (C7)	Shallow Aqu					
	Other (Explain in Remarks)	· -	aphic Relief (D4)				
Sparsely Vegetated Concave Surface (B8)		FAC-Neutra	Il Test (D5)				
Field Observations:	(5 4 6 1)						
	Depth (inches):						
	<pre>Depth (inches):</pre>	Wetland Hydrology Prese	nt? Yes No √				
(includes capillary fringe)			iit: ies Nov_				
Describe Recorded Data (stream gauge, monitoring	ng well, aerial photos, previous inspe	ctions), if available:					
Remarks:							
No indicators of wetland hydrology	y were observed.						

VEGETATION - Use scientific names of plants	1.			Sampling Point: wasa052f_u1
Tree Stratum (Plot size:30')			nt Indicator Status	Dominance Test worksheet:
1				Number of Dominant Species That Are OBL, FACW, or FAC:(A)
2				Total Number of Dominant Species Across All Strata: (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 0.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0.0	= Total Co	over	OBL species x 1 =0
Sapling/Shrub Stratum (Plot size: 15')				FACW species0 x 2 =0
1				FAC species x 3 = 0
2		-		FACU species <u>35</u> x 4 = <u>140</u>
3				UPL species <u>50</u> x 5 = <u>250</u>
4.				Column Totals: <u>85</u> (A) <u>390</u> (B)
5				Prevalence Index = B/A =4.59
6				Hydrophytic Vegetation Indicators:
				1 - Rapid Test for Hydrophytic Vegetation
7				2 - Dominance Test is >50%
	0.0	= Total Co	over	3 - Prevalence Index is ≤3.0 ¹
Herb Stratum (Plot size: 5') 1. Bromus inermis	50	Υ	UPL	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Phleum pratense		Y	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Taraxacum officinale</u>		N	FACU	
				¹ Indicators of hydric soil and wetland hydrology must
4. <u>Lotus corniculatus</u>5				be present, unless disturbed or problematic.
				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8.				
9.				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12.		'		Woody vines – All woody vines greater than 3.28 ft in
		= Total Co	over	height.
Woody Vine Stratum (Plot size:30')		= Total Ct	ovei	
1				
2				
3				Hydrophytic Vegetation
4		-		Present? Yes No ✓
		= Total Co	over	
Remarks: (Include photo numbers here or on a separate	sheet.)			has a lister decorate for the co
Vegetation has been recently cut. Mos	t species	s prese	ent nave	been introduced for nay.

SOIL Sampling Point: wasa052f_u1

Profile Desc	cription: (Describe t	to the dept	h needed to docun	nent the	indicator	or confirm	the absence of indicators.)
Depth	Matrix		Redo	x Feature	s1	. 2	
(inches)	Color (moist)	<u>%</u>	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture Remarks
0-8	·	100					
8-18	5YR 5/6	100			· ———		
	- <u></u> -						
	<u> </u>						
					<u> </u>		
¹Type: C=Ce	oncentration, D=Depl	etion, RM=	Reduced Matrix, MS	S=Maske	d Sand Gr	ains.	² Location: PL=Pore Lining, M=Matrix.
Hydric Soil							Indicators for Problematic Hydric Soils ³ :
Histosol	(A1) pipedon (A2)		Polyvalue Belov MLRA 149B)		(S8) (LR I	RR,	2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R)
	stic (A3)		Thin Dark Surfa		LRR R, M	LRA 149B)	
Hydroge	en Sulfide (A4)		Loamy Mucky N	/lineral (F	1) (LRR K		Dark Surface (S7) (LRR K, L)
	d Layers (A5) d Below Dark Surface	· (A11)	Loamy Gleyed I Depleted Matrix		2)		Polyvalue Below Surface (S8) (LRR K, L)Thin Dark Surface (S9) (LRR K, L)
	ark Surface (A12)	<i>(</i> A11)	Redox Dark Sui)		Iron-Manganese Masses (F12) (LRR K, L, R)
Sandy N	Mucky Mineral (S1)		Depleted Dark S	Surface (F			Piedmont Floodplain Soils (F19) (MLRA 149E
	Gleyed Matrix (S4)		Redox Depress	ions (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
	Redox (S5) I Matrix (S6)						Red Parent Material (F21) Very Shallow Dark Surface (TF12)
	rface (S7) (LRR R, N	ILRA 149B)				Other (Explain in Remarks)
31	f harden had a constat		de ed bodeste economic	()		a alta ta colo a al	Landard Marie Control
	f hydrophytic vegetat Layer (if observed):		tiand nydrology mus	t be pres	ent, unies:	s disturbed	or problematic.
Type:							
Depth (in	ches):						Hydric Soil Present? Yes No✓
Remarks:							
Reddish	clay througho	ut the p	rofile.				



wasa052f_u1_N



wasa052f_u1_S

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ashl	and	Sampling Date: 2019-10-11	
Applicant/Owner: Enbridge				
Investigator(s): ARK/MAL				
Landform (hillslope, terrace, etc.): Depression				
Subregion (LRR or MLRA): Northcentral Forests Lat: 46				
Soil Map Unit Name: Sanborg-Badriver comple				
Are climatic / hydrologic conditions on the site typical for this				
Are Vegetation, Soil, or Hydrologys				
Are Vegetation, Soil, or Hydrology r				
SUMMARY OF FINDINGS – Attach site map	showing sampling poin	t locations, transects	s, important features, etc.	
Hydrophytic Vegetation Present? Yes✓ N	lo Is the Sample	led Area		
Hydric Soil Present? Yes ✓ N	141 1 144 4	tland? Yes <u>√</u>	No	
Wetland Hydrology Present? Yes ✓ N	lo If yes, option	al Wetland Site ID:	_	
Remarks: (Explain alternative procedures here or in a sep	parate report.)	ree unland comple	point wood000 u2	
Forested wetland surrounded by upland	o lorest. Feature shar	es upiano sample	point waseu8u_uz.	
HYDROLOGY				
Wetland Hydrology Indicators:		Secondary Indica	ators (minimum of two required)	
Primary Indicators (minimum of one is required; check all	that apply)	Surface Soil	Cracks (B6)	
Surface Water (A1) Wat	ter-Stained Leaves (B9)	Drainage Pa	tterns (B10)	
	atic Fauna (B13)	Moss Trim Lines (B16)		
	l Deposits (B15)	Dry-Season Water Table (C2)		
	Irogen Sulfide Odor (C1)	Crayfish Bur		
	dized Rhizospheres on Living Ro		isible on Aerial Imagery (C9)	
	sence of Reduced Iron (C4)		tressed Plants (D1)	
	cent Iron Reduction in Tilled Soils			
	Muck Surface (C7)	Shallow Aqu		
	er (Explain in Remarks)	Microtopogra		
Sparsely Vegetated Concave Surface (B8) Field Observations:		FAC-Neutral	Test (D5)	
	pth (inches):			
	pth (inches):			
		Wetland Hydrology Prese	nt? Yes <u>√</u> No	
(includes capillary fringe)	, , ,	, ,,	11. 100 <u>v</u> 110	
Describe Recorded Data (stream gauge, monitoring well,	aerial photos, previous inspection	ons), if available:		
Remarks:				
Seasonally saturated wetland.				

VEGETATION – Use scientific names of plants.

VEGETATION – Use scientific names of plants.				Sampling Point: wase081f_w
Tree Stratum (Plot size: 30')	Absolute % Cover		t Indicator Status	Dominance Test worksheet:
1. <u>Fraxinus nigra</u>				Number of Dominant Species That Are OBL, FACW, or FAC: 6.0 (A)
2. Populus tremuloides	20.0	Y	FAC	Total Number of Dominant
3. <u>Acer rubrum</u>	5.0	N	FAC	Species Across All Strata: 6.0 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: (A/B)
6	<u> </u>		<u> </u>	Prevalence Index worksheet:
7			·	Total % Cover of: Multiply by:
2 11 (2) 1 2 1 (2) 1	65.0	= Total Co	ver	OBL species <u>5.0</u> x 1 = <u>5.0</u> FACW species <u>90.0</u> x 2 = <u>180.0</u>
Sapling/Shrub Stratum (Plot size: 15')	20.0	V	E A C\A/	FAC species 30.0 x 3 = 90.0
1. Alnus incana				FACU species 0.0 x 4 = 0.0
2. <u>Rubus idaeus</u>				UPL species <u>0.0</u> x 5 = <u>0.0</u>
3				Column Totals: <u>125.0</u> (A) <u>275.0</u> (B)
4				Prevalence Index = B/A =2_
5				Hydrophytic Vegetation Indicators:
6				1 - Rapid Test for Hydrophytic Vegetation
7	25.0			∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size:5')	20.0	= Total Co	vei	3 - Prevalence Index is ≤3.0¹
1. <u>Carex intumescens</u>	20.0	Υ	FACW	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Rubus pubescens			FACW	Problematic Hydrophytic Vegetation¹ (Explain)
3. Calamagrostis canadensis			OBL	
4				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in height.
	35.0	= Total Co	ver	noight.
Woody Vine Stratum (Plot size:)				
1	· ——			
2				
3				Hydrophytic Vegetation
				_ ~ .
4		= Total Co		Present? Yes ✓ No

SOIL Sampling Point: wase081f_w

Profile Desc	cription: (De	escribe t	o the dep	th needed	to docun	nent the i	ndicator	or confirm	the absence	of indicators.)	
Depth		Matrix		Redox Features				. 2	- .	B	
(inches)	Color (m	2/1	 95	7.5YR	-	 5	Type'	Loc ²	Texture C	Prominent redox	
4-14	101R	4/1	80	10YR	2/1	10	<u> </u>	M		P TOTILITETIC TEGOX	
4-14	10111	-T/ I	_00_	7.5YR	5/6	10		M	<u> </u>		
	5YR	5/6	80	10YR		10		M	C		
	10YR		10	10111	<u>~/ </u>				C		
14.10	1011	7/ 1									
¹Type: C=C		, D=Deple	etion, RM	=Reduced N	Matrix, MS	=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix.	
Hydric Soil				Dahara	lua Dalau	Cf = = =	(CO) (LDI			for Problematic Hydric Soils ³ :	
Histosol	pipedon (A2)				iue Belov R A 149B)	v Surface	(58) (LRI	κκ,		Muck (A10) (LRR K, L, MLRA 149B) Prairie Redox (A16) (LRR K, L, R)	
	istic (A3) en Sulfide (A4	4)				ce (S9) (L lineral (F1		LRA 149B)		Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L)	
	d Layers (A5				-	Matrix (F2)		, L)		alue Below Surface (S8) (LRR K, L)	
-	d Below Darl ark Surface ((A11)		ed Matrix	(F3) face (F6)				Dark Surface (S9) (LRR K, L)	
	ark Surface (Лиску Minera					Surface (F6)	7)		Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B)		
	Gleyed Matrix	(S4)		Redox	Depressi	ions (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
	Redox (S5) d Matrix (S6)								Red Parent Material (F21) Very Shallow Dark Surface (TF12)		
Dark Su	ırface (S7) (L	RR R, M	LRA 149	3)					Other	(Explain in Remarks)	
		_	on and w	etland hydro	logy mus	t be prese	ent, unles	s disturbed of	or problemati	с.	
Restrictive	Layer (if obs	served):									
Type:	ches):								Hydric Soil	I Present? Yes No	
Remarks:	<u> </u>										
Clay with	redox.										



wase081f_w_E



wase081f_w_S

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name:	Evaluator(s):		
Line 5 Relocation Project	MAL/ARK		
File #:	Date of visit(s):		
wase081	10/11/2019		
Location:	Ecological Landsca	ape:	
PLSS: <u>046N-004W-05</u>	Superior Coastal Plain		
	Superior Coastal Flairi		
Lat: <u>46.494247</u> Long: <u>-90.894594</u>	Watershed:		
•	LS10 White River		
County: Ashland Town/City/Village: White River town			
,			
SITE DESCRIPTION			
Soils:	WWI Class:		
Mapped Type(s):	T3Kr		
580B, Sanborg-Badriver complex, 0 to 6 percent slopes	Wetland Type(s):		
	PFO - Hardwood Swamp		
Field Verified:	i i o i i ai ai i o i	2 · · · · · · · · · · · · · · · · · · ·	
Series not verified. The soils consist of a clay	Wetland Size:	Wetland Area Impacted	
texture.	0.35	0.35	
toxtaro.	Vegetation:	1	
	Plant Community D	Description(s):	
Hydrology:		arsely vegetated with cover of	
Seasonally saturated wetland.		Calamagrostis canadensis, and	
Coasonally saturated Wolland.		s. The tree cover within the feature	
	Consists of black a	sh, red maple, and quaking aspen.	

SITE MAP		

SECTION 1: Functional Value Assessment

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Ν	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	N	N	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
	- ' '	- 11	In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	- 11	111	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	Y	Y	3 or more strata present (>10% cover)
3	N		Within or adjacent to habitat corridor or established wildlife habitat area
4		N	
	Y	Y	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	Υ	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present <u>> 45 days</u>
10	N	N	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	Ν	N	Wetland is connected or contiguous with perennial stream or lake
2	Ν	N	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	N	N	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	N	N	water levels or high flows – if no, not applicable
3	N	N	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Y	Ϋ́	Water flow through wetland is NOT channelized
3	N	N	Dense, persistent vegetation
4	N	Y	Evidence of flashy hydrology
5	N	N	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7			Within a watershed with <10% wetland
8	N	N N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ	N	N	Water Quality Protection
. 1	N.	N 1	
1	N	N	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland or constricted outlet
3	Y	Y	Water flow through wetland is NOT channelized
4	N	N	Vegetated wetland associated with a lake or stream
5	N	N	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area
	I N	I IV	Welland is within a wellinead protection area

Lis	Idlife Habita st: direct ok nter, etc.	at and Species Observation (including amphibians and reptiles) oservation, tracks, scat, other sign; type of habitat: nesting, migratory,
Observed	Potential	Species/Habitat/Comments
Onsei ved	Y	he wetland provides habitat for songbirds as well as amphibians and mammals including dee
i	·	no workeria provided habitat for deligative as well as amphibians and mammalo moleculing acc
		atic Life Habitat and Species Observations oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observed	Potential	Species/Habitat
	<u> </u>	

Section 1 Comments (Refer to Section 1 numbers)
WH-7: Canopy cover provides songbird habitat.

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Traine Community Integrity (Choice)						
	Low	Medium	High	Exceptional			
Invasive species cover	> 50%	20-50%	10-20%	<10%√			
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented			
NHI plant community ranking	S4 🗸	S3 🗌	S2	S1-S2 (S2 high quality)			
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare			
FQI (optional)	<13	13-23	23-32	>32			
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7			

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Abundance)
Fraxinus nigra				Common
Populus tremuloides				Common
Acer rubrum				Rare
Alnus incana				Rare
Rubus idaeus				Rare
Carex intumescens				Common
Rubus pubescens				Uncommon
Calamagrostic canadensis				Rare

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The feature has moderate diversity across three strata. There is little to no invasive cover.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor		
					Filling, berms (non-impounding)		
					Drainage – tiles, ditches		
					Hydrologic changes - high capacity wells,		
					impounded water, increased runoff		
					Point source or stormwater discharge		
					Polluted runoff		
					Pond construction		
					Agriculture – row crops		
	Х		L	С	Agriculture – hay		
					Agriculture – pasture		
					Roads or railroad		
					Utility corridor (above or subsurface)		
					Dams, dikes or levees		
					Soil subsidence, loss of soil structure		
					Sediment input		
					Removal of herbaceous stratum – mowing,		
					grading, earthworms, etc.		
V	V	V	ı	0	Removal of tree or shrub strata – logging,		
X	X	X	L	С	unprescribed fire		
	Х		L	С	Human trails – unpaved		
					Human trails – paved		
					Removal of large woody debris		
	Х				Cover of non-native and/or invasive species		
					Residential land use		
					Urban, commercial or industrial use		
					Parking lot		
					Golf course		
					Gravel pit		
					Recreational use (boating, ATVs, etc.)		
					Excavation or soil grading		
					Other (list below):		
					,		

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

	The feature has been disturbed in the past by potential logging.			

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION	SIGNIFICANCE									
	Low	Medium	High	Exceptional	NA					
Floristic Integrity		✓								
Human Use Values	√									
Wildlife Habitat		✓								
Fish and Aquatic Life Habitat	√									
Shoreline Protection					√					
Flood and Stormwater Storage	√									
Water Quality Protection		√								
Groundwater Processes	√									

FUNCTION	RATIONALE
Floristic Integrity	The floristic integrity is moderate with multiple strata of primarily native species.
Human Use Values	The feature is not visible to the public and is not utilized for recreation or research.
Wildlife Habitat	The feature provides some habitat for wildlife due to tree cover.
Fish and Aquatic Life Habitat	The wetland may support standing seasonally.
Shoreline Protection	N/A
Flood and Stormwater Storage	The area is sparsely vegetated at the herb layer and does not receive a high volume of storm water or runoff.
Water Quality Protection	The feature is sparsely vegetated and is not directly associated with a lake or stream.
Groundwater Processes	The wetland is seasonally saturated with primarily recharge hydrology.

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	t City/C	County: Ashland	Sa	ampling Date: <u>2019-10-11</u>	
Applicant/Owner: Enbridge					
Investigator(s): ARK/MAL	Section	on, Township, Range: 04	6N-004W-05		
Landform (hillslope, terrace, etc.): Crest					
Subregion (LRR or MLRA): Northcentral Forest					
Soil Map Unit Name: Sanborg-Badriver					
Are climatic / hydrologic conditions on the site typ	•	•			
Are Vegetation, Soil, or Hydrology					
Are Vegetation, Soil, or Hydrology			plain any answers ir		
SUMMARY OF FINDINGS – Attach si	te map showing sam	ipling point location	ns, transects, in	nportant features, etc.	
Hydrophytic Vegetation Present? Yes _	No <u></u>	Is the Sampled Area			
Hydric Soil Present? Yes _	No <u></u>	within a Wetland?	Yes	No <u>√</u>	
Wetland Hydrology Present? Yes _ Remarks: (Explain alternative procedures here	No <u></u>	If yes, optional Wetland S	Site ID:		
Upland forest edge.					
HYDROLOGY					
Wetland Hydrology Indicators:		<u> </u>	Secondary Indicators	s (minimum of two required)	
Primary Indicators (minimum of one is required;	check all that apply)		Surface Soil Cra		
Surface Water (A1)	Water-Stained Leave		Drainage Patterr		
High Water Table (A2)	Aquatic Fauna (B13)	-	Moss Trim Lines (B16)		
Saturation (A3) Water Marks (B1)	Marl Deposits (B15)	or (C1)	Dry-Season Water Table (C2) Crayfish Burrows (C8)		
Sediment Deposits (B2)	Hydrogen Sulfide Od Oxidized Rhizosphere			e on Aerial Imagery (C9)	
Sediment Deposits (B2) Drift Deposits (B3)	Presence of Reduced	=	Saturation VisiblStunted or Stres		
Algal Mat or Crust (B4)	Recent Iron Reduction		Geomorphic Post		
Iron Deposits (B5)	Thin Muck Surface (0		Shallow Aquitard		
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Rer		Microtopographi		
Sparsely Vegetated Concave Surface (B8)		,	FAC-Neutral Tes		
Field Observations:					
Surface Water Present? Yes No _	✓ Depth (inches):				
Water Table Present? Yes No _	✓ Depth (inches):				
	✓ Depth (inches):	Wetland Hy	drology Present?	Yes No <u>√</u>	
(includes capillary fringe) Describe Recorded Data (stream gauge, monito	ring well, aerial photos, pre	vious inspections), if avail	able:		
	3 / 1 /1	, ,,			
Remarks: No wetland hydrology indicators	were observed.				
, 0,					

VEGETATION – Use scientific names of plants.

	S.			Sampling Point: wase080_u2
Tree Stratum (Plot size:30')	Absolute % Cover		t Indicator Status	Dominance Test worksheet:
1. Pinus resinosa	20.0	Υ	FACU	Number of Dominant Species That Are OBL, FACW, or FAC:1.0 (A)
2. <u>Acer saccharum</u>			FACU	
3. Betula papyrifera			FACU	Total Number of Dominant Species Across All Strata: 5.0 (B)
4				
5.				Percent of Dominant Species That Are OBL, FACW, or FAC: 20.0 (A/B)
6.				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	35.0 =	= Total Co	ver	OBL species 10.0 x1 = 10.0
Sapling/Shrub Stratum (Plot size:)				FACW species 0.0 x 2 = 0.0 FAC species 10.0 x 3 = 30.0
1. <u>Rubus idaeus</u>	_ <u>10.0</u>	<u> Y </u>	<u>FAC</u>	FACU species 60.0 x 4 = 240.0
2			 	UPL species $40.0 \times 5 = 200.0$
3				Column Totals: 120.0 (A) 480.0 (B)
4				, ,, , ,
5				Prevalence Index = B/A = 4.0
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	10.0 =		ver	2 - Dominance Test is >50%
Herb Stratum (Plot size:5')				3 - Prevalence Index is ≤3.0¹
1. Eurybia macrophylla	40.0	V	UPL	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Pteridium aquilinum			FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
•				robicinate rivatophytic vegetation (Explain)
3. <u>Calamagrostis canadensis</u>			OBL	¹ Indicators of hydric soil and wetland hydrology must
4. <u>Fragaria virginiana</u>				be present, unless disturbed or problematic.
5			·	Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	75.0 =	= Total Co	ver	height.
Woody Vine Stratum (Plot size:30')				
1				
2.				
3				Hydrophytic Vegetation
4			-	Present? Yes No✓
	(1)(1) -	= Total Co	ver	

SOIL Sampling Point: wase080_u2

Profile Desc	cription: (Describe	to the de	oth needed	to docur	nent the i	ndicator	or confirm	the absence	e of indicators.)	
Depth	Matrix				x Features		. 2	- .	5	
(inches)	Color (moist) 7.5YR 3/4	100	Color (n	noist)	%	Type'	Loc ²	Texture SL	Remarks	
2-12			7.5YR	5/6	40		N./I		Distinct redox	
	1.51K 3/4	_30_					IVI		Distilict redox	
2-12	7.5VD 5/0	400	7.5YR	0/3	_30_	<u> </u>	IVI	SC SC		
12-10	7.5YR 5/8	100			. ———			_5C_		
					·					
					. ———					
		· ——			·					
					· ———					
¹ Type: C=C Hydric Soil	oncentration, D=Dep	letion, RM	=Reduced N	Matrix, MS	S=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils ³ :	
Histosol			Polyva	lue Belov	w Surface	(S8) (LR I	R R,		Muck (A10) (LRR K, L, MLRA 149B)	
	pipedon (A2)			RA 149B)		DD D 14	. D.A. 440D)		Prairie Redox (A16) (LRR K, L, R)	
	istic (A3) en Sulfide (A4)				ice (S9) (L ⁄lineral (F		LRA 149B) (, L)		Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L)	
Stratifie	d Layers (A5)		Loamy	Gleyed I	Matrix (F2			Polyva	alue Below Surface (S8) (LRR K, L)	
-	d Below Dark Surface ark Surface (A12)	e (A11)		ed Matrix Dark Su	(F3) rface (F6)			Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R)		
Sandy N	Mucky Mineral (S1)		Deplet	ed Dark S	Surface (F	7)		Piedmont Floodplain Soils (F19) (MLRA 149B)		
-	Gleyed Matrix (S4) Redox (S5)		Redox	Depress	ions (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21)		
-	d Matrix (S6)							Very Shallow Dark Surface (TF12)		
Dark Su	ırface (S7) (LRR R, N	ILRA 149	B)					Other	(Explain in Remarks)	
	f hydrophytic vegetat		etland hydro	logy mus	t be prese	ent, unles	s disturbed o	or problemati	ic.	
	Layer (if observed):									
Type:	ahaa).							Hydric Soi	I Present? Yes No✓	
Remarks:	ches):							1194110 001	11105cm: 105 No	
	c soil indicator	s were	observ	ed.						



wase080_u2_N



wase080_u2_S

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ashla	ınd	Sampling Date: <u>2019-10-11</u>	
Applicant/Owner: Enbridge				
Investigator(s): AGG/MDL				
Landform (hillslope, terrace, etc.): Depression		=		
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.4				
Soil Map Unit Name: Sanborg-Badriver complex,				
Are climatic / hydrologic conditions on the site typical for this tir				
Are Vegetation, Soil, or Hydrology sign				
Are Vegetation, Soil, or Hydrology natu				
SUMMARY OF FINDINGS – Attach site map sh	owing sampling point	locations, transects,	important features, etc.	
Hydrophytic Vegetation Present? Yes✓ No _	Is the Sample	d Area		
Hydric Soil Present? Yes ✓ No	241.1 187.41	and? Yes <u>√</u>	No	
Wetland Hydrology Present? Yes No _		Wetland Site ID:		
Remarks: (Explain alternative procedures here or in a separa				
The feature is the headwater to waterbod	y sasd014e.			
HYDROLOGY				
Wetland Hydrology Indicators:		Secondary Indicat	ors (minimum of two required)	
Primary Indicators (minimum of one is required; check all that	apply)	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	
	Stained Leaves (B9)	Drainage Patt		
	Fauna (B13)	Moss Trim Lines (B16)		
✓ Saturation (A3) Marl De	eposits (B15)	Dry-Season V	Vater Table (C2)	
Water Marks (B1) Hydrog	en Sulfide Odor (C1)	Crayfish Burro	ows (C8)	
	ed Rhizospheres on Living Roc	ots (C3) Saturation Vis	sible on Aerial Imagery (C9)	
1 — · · · · · · · · —	Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1)			
	Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2)			
	uck Surface (C7)	Shallow Aquitard (D3)		
	Explain in Remarks)		phic Relief (D4)	
Sparsely Vegetated Concave Surface (B8)		FAC-Neutral 1	Test (D5)	
Field Observations: Surface Water Present? Yes No ✓ Depth	(inches):			
Water Table Present? Yes ✓ No Depth Saturation Present? Yes ✓ No Depth		Intland Hydrology Procent	? Yes <u>√</u> No	
(includes capillary fringe)	(Inches). O	eliana nyarology Fresent	.: res_vNO	
Describe Recorded Data (stream gauge, monitoring well, aer	al photos, previous inspection	s), if available:		
Remarks:				
The wetland hydrology regime is saturate	;d.			

VEGETATION – Use scientific names of plants.

				Sampling Point: wasd019e_w
	Absolute % Cover		Indicator	Dominance Test worksheet:
1				Number of Dominant Species That Are OBL, FACW, or FAC:
2				Total Number of Dominant
3				Species Across All Strata:(B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)
5				marrie esz, men, erme. <u>100.0</u> (72)
6				Prevalence Index worksheet:
7	0.0		· · · · · · · · · · · · · · · · · · ·	
Sapling/Shrub Stratum (Plot size:15')	0.0	= Total Co	vei	FACW species $100.0 \times 1 = 0.0$
				FAC species 0.0 x3 = 0.0
1				FACU species x 4 =0.0
2				UPL species x 5 =0.0
3				Column Totals: <u>100.0</u> (A) <u>200.0</u> (B)
4				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
				✓ 1 - Rapid Test for Hydrophytic Vegetation
7	0.0			∠ 2 - Dominance Test is >50%
	0.0	= Total Co	vei	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5') 1. Phalaris arundinacea	100.0	Y	FACW	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2				Problematic Hydrophytic Vegetation ¹ (Explain)
3				¹ Indicators of hydric soil and wetland hydrology must
4				be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10		-	·	Herb – All herbaceous (non-woody) plants, regardless
11		-	·	of size, and woody plants less than 3.28 ft tall.
12			· ——	Woody vines – All woody vines greater than 3.28 ft in height.
	100.0	= Total Co	ver	
Woody Vine Stratum (Plot size: 30')				
1				
2			· ——	
3				Hydrophytic
4				Vegetation Present? Yes ✓ No
	0.0	= Total Co	ver	

SOIL Sampling Point: wasd019e_w

Profile Desc	cription: (Describe t	o the dep	th needed	to docun	nent the i	ndicator	or confirm	the absence	of indicators.)
Depth	Matrix				x Features	1		_	
(inches)	Color (moist)	%	Color (n		<u>%</u>	Type'	Loc ²	<u>Texture</u>	Remarks
0-18	10YR 4/1	90	<u>5YR</u>	5/8	_10_	_C_	_M_	CL	Prominent redox
									
			-						
									
	oncentration, D=Depl	etion, RM	=Reduced N	Matrix, MS	S=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix.
Hydric Soil			Dahasa	lua Dalau	Cfa a a	(CO) (LD)			for Problematic Hydric Soils ³ :
Histosol	oipedon (A2)		-	iue Belov R A 149B)	v Surface	(58) (LR I	κк,		Muck (A10) (LRR K, L, MLRA 149B) Prairie Redox (A16) (LRR K, L, R)
	stic (A3)			,		.RR R, M	LRA 149B)	5 cm M	Mucky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4)			-	lineral (F1		., L)		Surface (S7) (LRR K, L)
	d Layers (A5) d Below Dark Surface	Δ(Δ11)		Gleyed I ed Matrix	Matrix (F2)			alue Below Surface (S8) (LRR K, L) Park Surface (S9) (LRR K, L)
	ark Surface (A12)	, (, (, , ,)			face (F6)				langanese Masses (F12) (LRR K, L, R)
-	Mucky Mineral (S1)				Surface (F	7)			ont Floodplain Soils (F19) (MLRA 149B)
-	Gleyed Matrix (S4)		Redox	Depressi	ions (F8)				Spodic (TA6) (MLRA 144A, 145, 149B)
-	Redox (S5) I Matrix (S6)								arent Material (F21) Shallow Dark Surface (TF12)
	rface (S7) (LRR R, M	ILRA 149	3)						(Explain in Remarks)
	f hydrophytic vegetati Layer (if observed):	ion and w	etland hydro	logy mus	t be prese	ent, unles	s disturbed	or problemation	C.
Type:	Layer (II Observed).								
	ches):							Hvdric Soil	Present? Yes <u>√</u> No
Remarks:	ches):							,	
	epleted clay loa	am wit	n promir	ent re	dox.				
	.,								





wasd019e_w_W

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION				
Project name:	Evaluator(s):			
Line 5 Relocation Project	AGG/MDL			
File #:	Date of visit(s):			
wasd019	10/11/2019			
Location:	Ecological Landsca	ipe:		
PLSS: <u>046N-004W-05</u>	Superior Coastal Plain			
	Superior Soustain fain			
Lat: <u>46.493903</u> Long: <u>-90.897875</u>	Watershed: LS10, White River			
County: Ashland Town/City/Village: White River town	,,			
Town only vinage.				
SITE DESCRIPTION				
Soils:	WWI Class:			
Mapped Type(s):	N/A			
580B Sanborg-Badriver complex, 280F Odanah silt loam	Wetland Type(s):			
	PEM - fresh wet meadow			
Field Verified:				
Series not verified. Soils were clay loam	Wetland Size:	Wetland Area Impacted		
throughout the profile.	0.03	0.03		
	Vegetation:			
	Plant Community D	escription(s):		
Hydrology:	•	ominated by Phalaris		
The hydrologic regime is saturated. The feature serves				
as the headwater for an ephemeral stream. Soil	arundinacea. Scirpus cyperinus is present			
saturation and high water table are present within the		nd outside of the survey		
wetland.	corridor.			

SITE MAP

SECTION 1: Functional Value Assessment

			Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	Ν	N	Used for educational or scientific purposes
3	Ν	N	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
_			In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7			In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	Υ	Υ	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N	N	100 m buffer – natural land cover >50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
	IN	IN	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
7	Ν	N	plans
8	N I	N	Part of a large habitat block that supports area sensitive species
9	N N	N N	Ephemeral pond with water present \geq 45 days
10			Standing water provides habitat for amphibians and aquatic invertebrates
-	N	N	• 1
11	N	N	Seasonally exposed mudflats present
12	N	Y	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	N	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	Υ	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	Υ	Υ	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2	N	N	Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
			water levels or high flows – if no, not applicable
3	Υ	Y	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Y	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Υ	Y	Water flow through wetland is NOT channelized
3	Υ	Y	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	Υ	Υ	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with ≤10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	Ν	N	Provides substantial storage of storm and floodwater based on previous section
2	Υ	Υ	Basin wetland or constricted outlet
3	Υ	Υ	Water flow through wetland is NOT channelized
4	Υ	Υ	Vegetated wetland associated with a lake or stream
5	Υ	Υ	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	Y	Y	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2	Y	Y	Location near a groundwater divide or a headwater wetland Wetland remains acturated for an extended time period with neadditional water inputs
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs
<u>4</u> 5	N	N	Wetland soils are organic
ו ה	N	N	Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers)					
GW-2: headwater to ST-5: likely receives	an ephemeral strear runoff from adjacen				
Wi	Idlife Habita	at and Species Observation (including amphibians and reptiles)			
Lis	st: direct of	oservation, tracks, scat, other sign; type of habitat: nesting, migratory,			
wi	nter, etc.				
Observed	Potential	Species/Habitat/Comments			
Fis	sh and Aqua	atic Life Habitat and Species Observations oservation, spawning, nursery areas, etc.			
LIS	st: direct of	oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.			
Observed	Potential	Species/Habitat			
	1				

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	inity intogrity (on olo)			
	Low	Medium	High	Exceptional
Invasive species cover	> 50% 🗸	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Phalaris arundinacea			PEM	Abundant

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The feature is dominated by an invasive species.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
X	Х		M	С	Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
Х	Х		Н	С	Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
			D 4	0	Removal of herbaceous stratum – mowing,
	X		M	С	grading, earthworms, etc.
	V	V		1.1	Removal of tree or shrub strata – logging,
	X	X	Н	U	unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
					Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The wetland is located within an agriculture field and is impacted by that land use and associated runoff. The				
surrounding area is likely logged and wormed.				

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION	SIGNIFICANCE								
	Low	Medium	High	Exceptional	NA				
Floristic Integrity	√								
Human Use Values	√								
Wildlife Habitat	√								
Fish and Aquatic Life Habitat					√				
Shoreline Protection	√								
Flood and Stormwater Storage	√								
Water Quality Protection		√							
Groundwater Processes	√								

FUNCTION	RATIONALE
Floristic Integrity	Invasive-dominated
Human Use Values	No observed uses
Wildlife Habitat	Does not appear to provide habitat
Fish and Aquatic Life Habitat	N/A
Shoreline Protection	Associated with ephemeral stream, dense vegetation
Flood and Stormwater Storage	Basin wetland, dense vegetation, excess water runs off to stream
Water Quality Protection	Does not allow much infiltration, associated with stream
Groundwater Processes	Feature runs off into waterbody

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/C	ounty: Ashland	Sa	mpling Date: <u>2019-10-1</u> 1		
Applicant/Owner: Enbridge						
Investigator(s): AGG/MDL				· -		
Landform (hillslope, terrace, etc.): Toeslope						
Subregion (LRR or MLRA): Northcentral Forests	Lat: 46 493961	Long: -90	897815	Datum: WGS84		
Soil Map Unit Name: Sanborg-Badriver co						
· ·		•				
Are climatic / hydrologic conditions on the site typic						
Are Vegetation, Soil, or Hydrology _						
Are Vegetation, Soil, or Hydrology _			xplain any answers in			
SUMMARY OF FINDINGS – Attach site	map showing sam	pling point location	ns, transects, in	nportant features, etc.		
Hydrophytic Vegetation Present? Yes	No <u></u> ✓	Is the Sampled Area				
	No ✓	within a Wetland?	Yes	No <u>√</u>		
Wetland Hydrology Present? Yes Remarks: (Explain alternative procedures here or		If yes, optional Wetland	Site ID:	_		
HYDROLOGY						
Wetland Hydrology Indicators:		<u> </u>	Secondary Indicators	(minimum of two required)		
Primary Indicators (minimum of one is required; cl	neck all that apply)		Surface Soil Crac			
	Water-Stained Leaves	s (B9)	Drainage Patterns (B10)			
	Aquatic Fauna (B13)	-	Moss Trim Lines (B16)			
	Marl Deposits (B15)Hydrogen Sulfide Odd	- or (C1)	Dry-Season Water Table (C2)			
	Oxidized Rhizosphere		Crayfish Burrows (C8) g Roots (C3) Saturation Visible on Aerial Imagery (C9)			
	Presence of Reduced	-	Stunted or Stress			
1 	Recent Iron Reduction	` '	Geomorphic Pos			
	Thin Muck Surface (C		Shallow Aquitard (D3)			
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Ren	narks)	Microtopographic Relief (D4)			
Sparsely Vegetated Concave Surface (B8)		-	FAC-Neutral Tes	st (D5)		
Field Observations:						
	✓ Depth (inches):					
	✓ Depth (inches):					
(includes capillary fringe)	✓ Depth (inches):			Yes No <u>√</u>		
Describe Recorded Data (stream gauge, monitorio	ng well, aerial photos, pre	vious inspections), if avail	able:			
Remarks:						
No wetland hydrology indicators v	vere observed.					

VEGETATION – Use scientific names of plants.

6.			Sampling Point: <u>wasd019_</u> u			
			Dominance Test worksheet:			
	-		Number of Dominant Species That Are OBL, FACW, or FAC:(A)			
			Total Number of Dominant			
			Species Across All Strata: 4.0 (B)			
			Percent of Dominant Species			
			That Are OBL, FACW, or FAC: 0.0 (A/B)			
			Prevalence Index worksheet:			
		_	Total % Cover of: Multiply by:			
0.0_=	= Total Co	over	OBL species x 1 =0.0			
			FACW species 0.0 x 2 = 0.0			
			FAC species 0.0 x 3 = 0.0 FACU species 85.0 x 4 = 340.0			
			UPL species 25.0 x 5 = 125.0			
			Column Totals: 110.0 (A) 465.0 (B)			
			Prevalence Index = B/A =4_2			
			Hydrophytic Vegetation Indicators:			
			1 - Rapid Test for Hydrophytic Vegetation			
0.0 =	= Total Co	over	2 - Dominance Test is >50%			
			 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting 			
25.0	Υ	<u>FACU</u>	data in Remarks or on a separate sheet)			
25.0	Υ	<u>FACU</u>	Problematic Hydrophytic Vegetation ¹ (Explain)			
25.0	Υ	FACU	1			
	Υ	UPL	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.			
	Ν	FACU	Definitions of Vegetation Strata:			
			Tree – Woody plants 3 in. (7.6 cm) or more in diamete at breast height (DBH), regardless of height.			
			Sapling/shrub – Woody plants less than 3 in. DBH			
			and greater than or equal to 3.28 ft (1 m) tall.			
			Herb – All herbaceous (non-woody) plants, regardless			
			of size, and woody plants less than 3.28 ft tall.			
			Woody vines – All woody vines greater than 3.28 ft in			
	= Total Co	over	height.			
			Hydrophytic			
		<u> </u>	Vegetation			
			Present? Yes No/_			
	% Cover		% Cover Species? Status			

SOIL Sampling Point: wasd019_u

Profile Desc	cription: (Describe t	to the depth	needed to docum	nent the i	ndicator	or confirm	the absence of i	ndicators.)
Depth (inches)	Matrix	0/		x Features	Type ¹	Loc ²	Toyturo	Remarks
(inches)	Color (moist)	<u>%</u> _	Color (moist)	%	туре	LOC		Remarks
0-18	7.5YR 4/3	100_						
					-			
	-							
					-			
¹Type: C=Co	oncentration, D=Depl	etion, RM=F	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	² Location: PL	_=Pore Lining, M=Matrix.
Hydric Soil								Problematic Hydric Soils ³ :
Histosol		_	Polyvalue Belov		(S8) (LRF	RR,		(A10) (LRR K, L, MLRA 149B)
Histic Ep	oipedon (A2)		MLRA 149B) Thin Dark Surfa		DDD MI	PA 1/0R)		rie Redox (A16) (LRR K, L, R) sy Peat or Peat (S3) (LRR K, L, R)
_	en Sulfide (A4)	_	Loamy Mucky N					ce (S7) (LRR K, L)
Stratified	d Layers (A5)	_	Loamy Gleyed I	Matrix (F2		,	Polyvalue l	Below Surface (S8) (LRR K, L)
	d Below Dark Surface	e (A11) _	Depleted Matrix					Surface (S9) (LRR K, L)
	ark Surface (A12) Nucky Mineral (S1)	-	_ Redox Dark Sul _ Depleted Dark S				_	anese Masses (F12) (LRR K, L, R) Floodplain Soils (F19) (MLRA 149B)
-	Gleyed Matrix (S4)	_	_ Depleted Dark \(\) _ Redox Depress		7)			dic (TA6) (MLRA 144A, 145, 149B)
-	Redox (S5)	_		()				t Material (F21)
	Matrix (S6)							ow Dark Surface (TF12)
Dark Su	rface (S7) (LRR R, M	ILRA 149B)					Other (Exp	lain in Remarks)
³ Indicators of	f hydrophytic vegetati	ion and wetl	and hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
Restrictive I	Layer (if observed):							
Type:								
Depth (inc	ches):						Hydric Soil Pre	sent? Yes No _✓
Remarks:							1	
No hydrid	c soil indicator	s were	observed.					



wasd019_u_E



wasd019_u_NW

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Reloc	cation Proiect		City/C	ounty: Ash	land		Sampling Date	e: <u>2019-10-11</u>
Applicant/Owner: Enbridge	•							
Investigator(s): AGG/JSW								
Landform (hillslope, terrace, et								
Subregion (LRR or MLRA): No.	orthcentral Forests	Lat: 46	493218	o. (ooou.o,	Long: -90	897916		um: WGS84
Soil Map Unit Name: Sanbo								
	· ·	•	•	•				
Are climatic / hydrologic condit			-					/ NI-
Are Vegetation, Soil								
Are Vegetation, Soil	, or Hydrology	n	aturally problema	atic? (If needed, ex	xplain any answer	s in Remarks.)	
SUMMARY OF FINDING	S – Attach sit	e map	showing sam	pling poir	nt locatio	ns, transects,	important	features, etc.
Hydrophytic Vegetation Prese Hydric Soil Present?	Yes	✓ No	o		etland?	Yes <u>√</u>		
Wetland Hydrology Present? Remarks: (Explain alternativ			0	If yes, option	nal Wetland	Site ID:		
The feature is a sha Stream sasd013i is			•	•			• •	
HYDROLOGY								
Wetland Hydrology Indicate						Secondary Indicat		of two required)
Primary Indicators (minimum	of one is required; of					Surface Soil (
Surface Water (A1)			er-Stained Leaves		Drainage Patterns (B10)			
High Water Table (A2)			atic Fauna (B13)			 Moss Trim Lines (B16) Dry-Season Water Table (C2)		
Saturation (A3) Water Marks (B1)			Deposits (B15) ogen Sulfide Odo	or (C1)		Dry-Season V Crayfish Burro		2)
Sediment Deposits (B2)			ized Rhizosphere			Saturation Vis		Imagery (C9)
Drift Deposits (B3)			ence of Reduced	_		Stunted or Str		
Algal Mat or Crust (B4)			ent Iron Reduction			✓ Geomorphic F		,5.1)
Iron Deposits (B5)			Muck Surface (C			Shallow Aquit		
Inundation Visible on Ae	rial Imagery (B7)		er (Explain in Rem	•		Microtopograp)
Sparsely Vegetated Con	,		(=-	,		✓ FAC-Neutral		,
Field Observations:								
Surface Water Present?	Yes No	✓ Dep	oth (inches):					
Water Table Present?	Yes No	✓ Dep	oth (inches):					
Saturation Present?	Yes No _	✓ Dep	oth (inches):		Wetland H	ydrology Present	? Yes <u>√</u>	No
(includes capillary fringe) Describe Recorded Data (stre	am gauge, monitor	ing well. a	aerial photos, pre	vious inspecti	ions), if avai	lable:		
	zam gaage, meme		.oa. po.oo, p.o		,			
Remarks: The wetland hydrolo	ogy regime is	satura	ted.					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:30')	Absolute Dominant Indicator Cover Species? Status	Dominance Test worksheet:
		Number of Dominant Species
1		That Are OBL, FACW, or FAC:(A)
2		Total Number of Dominant
3		Species Across All Strata: 2.0 (B)
4		Percent of Dominant Species
5		That Are OBL, FACW, or FAC: 100.0 (A/B)
6		Prevalence Index worksheet:
7		Total % Cover of: Multiply by:
	0.0 = Total Cover	OBL species
Sapling/Shrub Stratum (Plot size:15')		FACW species x 2 =0.0
		FAC species 0.0 x 3 = 0.0
1		FACU species 0.0 x 4 = 0.0
2		UPL species x 5 =
3		Column Totals: 100.0 (A) 100.0 (B)
4		
5		Prevalence Index = B/A =1.0
6		Hydrophytic Vegetation Indicators:
7.		1 - Rapid Test for Hydrophytic Vegetation
	0.0 = Total Cover	2 - Dominance Test is >50%
Herb Stratum (Plot size:5')		3 - Prevalence Index is ≤3.0 ¹
1. <u>Scirpus cyperinus</u>	60.0 Y OBL	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Calamagrostis canadensis		Problematic Hydrophytic Vegetation ¹ (Explain)
· ·		
3		¹ Indicators of hydric soil and wetland hydrology must
4		be present, unless disturbed or problematic.
5		Definitions of Vegetation Strata:
6		Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7		at breast height (DBH), regardless of height.
8		Sapling/shrub – Woody plants less than 3 in. DBH
9		and greater than or equal to 3.28 ft (1 m) tall.
10		Herb – All herbaceous (non-woody) plants, regardless
11.		of size, and woody plants less than 3.28 ft tall.
12		Woody vines – All woody vines greater than 3.28 ft in
12.	100.0 = Total Cover	height.
201	100.0 = Total Cover	
Woody Vine Stratum (Plot size: 30')		
1		
2		
3		Hydrophytic
4		Vegetation Present? Yes ✓ No
	0.0 = Total Cover	riesent: res v NO
Remarks: (Include photo numbers here or on a separate The vegetation is dominated by woolgr outskirts of the wetland but none are w	ass and Canada bluejo	oint. There are quaking aspen on the

Sampling Point: wasc066e_w

SOIL Sampling Point: wasc066e_w

Profile Des	cription: (Describe	to the dep	th needed	to docur	nent the i	ndicator	or confirm	the absence	e of indicators.)
Depth Matrix		0/	Redox Features Color (moist) % Type ¹ Loc ²				12	T	Demonto
(inches)	Color (moist)	400	Color (r	<u>moist)</u>	%	Type'	Loc ²	Texture	Remarks
0-10	10YR 2/1	100		0/4				_MML_	
10-18	10YR 2/1	_98_	5YR	3/4		<u> </u>	<u>IVI</u>	C	Prominent redox
		·							
		- <u> </u>							
			-						
-			-						
		·							
	Concentration, D=Dep	letion, RM	=Reduced I	Matrix, MS	S=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix.
									s for Problematic Hydric Soils ³ :
Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) MLRA 149B)								Muck (A10) (LRR K, L, MLRA 149B) : Prairie Redox (A16) (LRR K, L, R)	
Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)									
	en Sulfide (A4)				Mineral (F		Κ, L)		Surface (S7) (LRR K, L)
Stratified Layers (A5) Loamy Gleyed Matrix (F2) Polyvalue Below Surface (S8) (LRR K, L) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thin Dark Surface (S9) (LRR K, L)									Dark Surface (S8) (LRR K, L)
Depleted Below Dark Surface (A11) Depleted Math'x (13) Third Dark Surface (S9) (LRR K, L) Redox Dark Surface (F6) Iron-Manganese Masses (F12) (LRR K, L, R)									
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 149E									
Sandy Gleyed Matrix (S4) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Red Parent Material (F21)									
Sandy Redox (SS) Red Farent Material (F21) Stripped Matrix (S6) Very Shallow Dark Surface (TF12)									
Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks)									
³ Indicators of	of hydrophytic vegeta	tion and w	etland hydro	oloav mus	st be prese	ent. unles	s disturbed (or problemati	c.
	Layer (if observed):					,			
Туре:									
Depth (inches):								Hydric Soi	I Present? Yes No
Remarks: A mucky mineral layer was observed over a dark clay layer.									
A mucky	mineral layer	was of	oserved	over a	a dark	clay la	yer.		



wasc066e_w_E



wasc066e_w_W

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION		
Project name: Line 5 Relocation Project	Evaluator(s): BRG/AAG	
File #: wasc066	Date of visit(s): 10/11/2019	
Location: PLSS: 046N-004W-05	Ecological Landsca Superior Coastal Plain	ape:
Lat: 46.493209 Long: -90.89795 County: Ashland Town/City/Village: White River town	Watershed: LS10, White River	
, ,		
Soils: Mapped Type(s):	WWI Class:	
580B Sanborg-Badriver complex Field Verified:	Wetland Type(s): PEM - Fresh Wet Meadow	
Series not verified. Soils were mucky mineral above clay.	Wetland Size: 0.03	Wetland Area Impacted 0.03
Hydrology: The hydrologic regime is seasonally saturated, with recharge hydrology.	Vegetation: Plant Community Description(s): Fresh wet meadow dominated by Calamagrostis canadensis and Scirpus cyperinus.	

SITE MAP		

SECTION 1: Functional Value Assessment

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Ν	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
2	N	N	Used for educational or scientific purposes
3	N	N	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
	- ' '	- 11	In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	IN	IN	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	Υ	Υ	Wetland and contiguous habitat >10 acres
2			3 or more strata present (>10% cover)
3	N	N	
	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N	N	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	N	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present > 45 days
10	Ν	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
11	Ν	N	Seasonally exposed mudflats present
12	Υ	Υ	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	Y	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N.	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Y	Vegetation is inundated in spring
SP	IN		Shoreline Protection
1	N	N	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
	IN	IN	Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	N	N	water levels or high flows – if no, not applicable
3	NI.	N	Densely rooted emergent or woody vegetation
ST	N	IN	Storm and Floodwater Storage
			Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
1	Y	Y	· · · · · · · · · · · · · · · · · · ·
2	Υ	Y	Water flow through wetland is NOT channelized
3	Υ	Υ	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	N	Υ	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with <10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	N	Υ	Provides substantial storage of storm and floodwater based on previous section
2	Υ	Υ	Basin wetland or constricted outlet
3	Υ	Υ	Water flow through wetland is NOT channelized
4	N	N	Vegetated wetland associated with a lake or stream
5	Y	Y	Dense, persistent vegetation
6	N	N N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	Y	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	N	N N	Natural land cover in 100m buffer area < 50%
	IN	IN	Groundwater Processes
GW			
1	N	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area

VQ-1: the wetland is	s or small size	
Wi	Idlife Habita	at and Species Observation (including amphibians and reptiles)
Lis	st: direct of	oservation, tracks, scat, other sign; type of habitat: nesting, migratory,
wii	nter, etc.	
Observed	Potential	Species/Habitat/Comments
	Y	Avian
	Y	Deer
		atic Life Habitat and Species Observations oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
	Potential	Species/Habitat
Observed		
Observed	Y	Frogs Aquatic invertebrates
Observed	Y	Aquatic invertebrates
Observed		
Dbserved		
Observed		
Dbserved		

Section 1 Comments (Refer to Section 1 numbers)

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4/	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Abundance)
Scirpus cyperinus			PEM	Abundant
Scirpus cyperinus Calamagrostis canadensis			PEM	Common
-				

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

Thr wetland has low species diversity. Invasive species are present in nearby wetlands and in the nearby hayfield and utility corridor.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
	Х		M	С	Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
	Х		M		Agriculture – hay
					Agriculture – pasture
					Roads or railroad
	Х		Н	С	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
	V			0	Removal of herbaceous stratum – mowing,
	X		L	С	grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
	Х		L	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The wetland is stressed by the adjacent utility corridor and nearby hayfield, but is not significantly disturbed by these.

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity	√				
Human Use Values		✓			
Wildlife Habitat	√				
Fish and Aquatic Life Habitat		✓			
Shoreline Protection					√
Flood and Stormwater Storage		/			
Water Quality Protection			√		
Groundwater Processes	√				

FUNCTION	RATIONALE
Floristic Integrity	Low diversity, some invasives nearby
Human Use Values	Hunting potential
Wildlife Habitat	Small size, marginal habitat
Fish and Aquatic Life Habitat	Habitat after inundation events
Shoreline Protection	N/A
Flood and Stormwater Storage	Small physical size of wetland
Water Quality Protection	Densely vegetated closed basin
Groundwater Processes	Groundwater recharge

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: As	hland	Sampling Date: <u>2019-10-11</u>
Applicant/Owner: Enbridge		State: WI	Sampling Point: wase080_u1
Investigator(s): ARK/MAL	Section, Townsh	ip, Range: <u>046N-004W-(</u>	05
Landform (hillslope, terrace, etc.): Crest	Local relief (concave	e, convex, none): Convex	Slope (%): <u>0-2%</u>
Subregion (LRR or MLRA): Northcentral Forests L			
Soil Map Unit Name: Sanborg-Badriver co			
Are climatic / hydrologic conditions on the site typical	al for this time of year? Yes	No (If no, explain in R	demarks.)
Are Vegetation, Soil, or Hydrology _	significantly disturbed?	Are "Normal Circumstances" p	oresent? Yes No
Are Vegetation, Soil, or Hydrology _	naturally problematic?	(If needed, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS - Attach site	map showing sampling po	int locations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes	No ✓ Is the Sar	mpled Area	
		Vetland? Yes	No <u></u>
1 -		ional Wetland Site ID:	
Remarks: (Explain alternative procedures here or			
Highly disturbed forest-meadow e	dge.		
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indica	ators (minimum of two required)
Primary Indicators (minimum of one is required; ch	neck all that apply)	Surface Soil	Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Pa	tterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim L	ines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry-Season	Water Table (C2)
	Hydrogen Sulfide Odor (C1)	Crayfish Bur	rows (C8)
	Oxidized Rhizospheres on Living	Roots (C3) Saturation V	isible on Aerial Imagery (C9)
	Presence of Reduced Iron (C4)		tressed Plants (D1)
	Recent Iron Reduction in Tilled S		Position (D2)
	Thin Muck Surface (C7)	Shallow Aqu	
	Other (Explain in Remarks)	Microtopogra	
Sparsely Vegetated Concave Surface (B8)		FAC-Neutral	Test (D5)
Field Observations:	/ Danth (inches)		
	/ Depth (inches):		
	<pre>/_ Depth (inches):</pre>		nt? Yes No_ <u>√</u>
(includes capillary fringe)			It: 165 NO
Describe Recorded Data (stream gauge, monitoring	ng well, aerial photos, previous inspe	ctions), if available:	
Remarks:			
No indicators of wetland hydrology	y were observed.		

VEGETATION – Use scientific names of plants.

				Sampling Point: wase080_u1				
Tree Stratum (Plot size:30')	Absolute % Cover		t Indicator Status	Dominance Test worksheet:				
1. <u>Picea glauca</u>	15.0_	Y	FACU	Number of Dominant Species That Are OBL, FACW, or FAC:1.0(A)				
2. <u>Thuja occidentalis</u>								
3				Total Number of Dominant Species Across All Strata: 5.0 (B)				
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 20.0 (A/B				
5								
6				Prevalence Index worksheet:				
7				Total % Cover of: Multiply by:				
	20.0 =	= Total Co	ver	OBL species x 1 =				
Sapling/Shrub Stratum (Plot size: 15')				FACW species 5.0 x 2 = 10.0				
1				FAC species x 3 = 15.0				
2				FACU species 80.0 x 4 = 320.0				
3.				UPL species <u>35.0</u> x 5 = <u>175.0</u>				
4				Column Totals: <u>125.0</u> (A) <u>520.0</u> (B)				
5				Prevalence Index = B/A = 4.2				
6				Hydrophytic Vegetation Indicators:				
7				1 - Rapid Test for Hydrophytic Vegetation				
	0.0 =		avor.	2 - Dominance Test is >50%				
Herb Stratum (Plot size:5')		- Total Co	ivei	3 - Prevalence Index is ≤3.0¹				
	35.0	V	UPL	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)				
1. <u>Bromus inermis</u>			FACU	Problematic Hydrophytic Vegetation ¹ (Explain)				
2. <u>Solidago altissima</u>								
3. <u>Phleum pratense</u>		Y	FACU	Definitions of Vegetation Strata:				
4. <u>Taraxacum officinale</u>		_N_	FACU					
5. <u>Fragaria virginiana</u>		N	FACU					
6. <u>Symphyotrichum lateriflorum</u>			FAC					
7. <u>Lotus corniculatus</u>		N	<u>FACU</u>	at breast height (DBH), regardless of height.				
8				Sapling/shrub – Woody plants less than 3 in. DBH				
9				and greater than or equal to 3.28 ft (1 m) tall.				
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.				
11								
12				Woody vines – All woody vines greater than 3.28 ft in height.				
	<u>105.0</u> =	= Total Co	ver	3				
Woody Vine Stratum (Plot size:)								
1			-					
2								
3				Hydrophytic				
4				Vegetation Present? Yes No✓				
	$\cap \cap$	= Total Co	ver					

SOIL Sampling Point: wase080_u1

Profile Des	cription: (Describe t	o the dep	th needed	to docur	nent the i	ndicator	or confirm	the absence	of indicators.)	
Depth	Matrix				x Features		. 2	- .	5	
(inches)	Color (moist) 7.5YR 4/3	100	Color (n	noist)	%	Type'	Loc ²	Texture CI	Remarks	
3-18	7.5YR 4/3		2.5YR	5/8	35		NA	CL	Prominent redox	
3-18	7.5YR 5/8	5						CL	1 TOTTILLETIC TEGOX	
<u> </u>	7.511C 5/O							<u> </u>		
-					· ——					
										
-										
					· ——					
-			-		· ——					
					· ——					
					. ——					
1								2		
	Concentration, D=Deplement Indicators:	etion, RM	=Reduced N	Matrix, MS	S=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils ³ :	
Histoso	I (A1)				w Surface	(S8) (LR I	R R,	2 cm l	Muck (A10) (LRR K, L, MLRA 149B)	
	pipedon (A2) listic (A3)			RA 149B) ark Surfa		RRR M	LRA 149B)		Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R)	
Hydrog	en Sulfide (A4)		Loamy	Mucky N	/lineral (F1	I) (LRR K		Dark S	Surface (S7) (LRR K, L)	
	d Layers (A5) d Below Dark Surface	. (Δ11)		Gleyed I ed Matrix	Matrix (F2)		Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L)		
-	ark Surface (A12)	(Д11)			rface (F6)			Iron-Manganese Masses (F12) (LRR K, L, R)		
-	Mucky Mineral (S1)				Surface (F	7)		Piedmont Floodplain Soils (F19) (MLRA 149B)		
-	Gleyed Matrix (S4) Redox (S5)		Redox	Depress	ions (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21)		
	d Matrix (S6)		_,					Very Shallow Dark Surface (TF12)		
Dark St	urface (S7) (LRR R, M	LRA 149	3)					Other	(Explain in Remarks)	
	of hydrophytic vegetati	on and w	etland hydro	logy mus	t be prese	ent, unles	s disturbed	or problemati	С.	
Type:	Layer (II observed).									
'' -	nches):							Hydric Soil Present? Yes No✓		
Remarks:										
No nyan	c soil indicator	s were	observe	ea.						



wase080_u1_NW



wase080_u1_SE

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/	/County: Ashland Sampling Date: 2019-10-17
	State: WI Sampling Point: wasa052e_w1
Investigator(s): ARK/NTT Sec	tion, Township, Range: <u>046N-004W-06</u>
	elief (concave, convex, none): Concave Slope (%): 0-2%
	Long: <u>-90.911505</u> Datum: <u>WGS84</u>
	ercent slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year?	·
	urbed? Are "Normal Circumstances" present? Yes ✓ No
Are Vegetation, Soil, or Hydrology naturally problem	
SUMMARY OF FINDINGS – Attach site map showing sa	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes ✓ No	Is the Sampled Area
Hydric Soil Present? Yes ✓ No	within a Wetland? Yes No
Wetland Hydrology Present? Yes ✓ No	If yes, optional Wetland Site ID:
Remarks: (Explain alternative procedures here or in a separate report.) Swale feature within a hay field. The feature is pa	rt of a larger wetland complex.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained Leav	
High Water Table (A2) Aquatic Fauna (B13	
Saturation (A3) Marl Deposits (B15)	
Water Marks (B1) Hydrogen Sulfide O	
	eres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Presence of Reduct Algal Mat or Crust (B4) Recent Iron Reduct	
Iron Deposits (B5) Thin Muck Surface	
Indit Deposits (B5) Thin Muck Surface	
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	<u></u> 1710 Noutal 1001 (20)
Surface Water Present? Yes No _ ✓ Depth (inches):	
Water Table Present? Yes No _✓ Depth (inches):	
Saturation Present? Yes No _ ✓ Depth (inches):	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, principle of the control of	ravious inspections) if available:
Describe Recorded Data (stream gauge, monitoring well, aerial priotos, pi	evious inspections), ii available.
Remarks:	ragima. Watland includes a number of swels
Feature assumed to have a saturated hydrologic	regime. Wetland includes a number of swale
features within the hay field.	

VEGETATION – Use scientific names of plants.

7 00 (7)	Absolute			Dominance Test worksheet:
Tree Stratum (Plot size: 30')		Species?		Number of Dominant Species
1				That Are OBL, FACW, or FAC:1 (A)
2				Total Number of Dominant
3	_			Species Across All Strata:1 (B)
4	_			Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.00 (A/B)
6.				
				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0.0	= Total Co	ver	OBL species x 1 = 2
Sapling/Shrub Stratum (Plot size: 15')				FACW species 95 x 2 = 190
1				FAC species 0 x 3 = 0
2	_			FACU species 0 x 4 = 0
3				UPL species 0 x 5 = 0
4.				Column Totals: <u>97</u> (A) <u>192</u> (B)
5				Prevalence Index = B/A = 1.98
6				Hydrophytic Vegetation Indicators:
				1 - Rapid Test for Hydrophytic Vegetation
7				✓ 2 - Dominance Test is >50%
	0.0	= Total Co	ver	✓ 3 - Prevalence Index is ≤3.0 ¹
Herb Stratum (Plot size: 5')	95	V	FACW	4 - Morphological Adaptations ¹ (Provide supporting
1. Phalaris arundinacea				data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)
2. <u>Juncus effusus</u>			OBL	1 Toblematic Hydrophytic Vegetation (Explain)
3				¹ Indicators of hydric soil and wetland hydrology must
4				be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6	_			Trace Manda plants 2 in (7.0 and) as record in diameter
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9.				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
				of size, and woody plants less than 3.28 ft tall.
11		-		Woody vines – All woody vines greater than 3.28 ft in
12				height.
	97	= Total Co	ver	
Woody Vine Stratum (Plot size: 30')				
1				
2				
3				Hydrophytic
4.				Vegetation
		= Total Co	/er	Present? Yes <u>√</u> No
Remarks: (Include photo numbers here or on a separate s		= 10tai 00	VCI	
Dominated by reed canary grass. Vege	tation h	as beer	recent	ly cut.
, , , , ,				

Sampling Point: wasa052e_w1

SOIL Sampling Point: wasa052e_w1

Profile Desc	ription: (D	escribe t	to the dep	th needed	to docur	nent the i	ndicator	or confirm	the absence	of indicators.)		
Depth		Matrix			Redo							
(inches)	Color (r	noist)	<u>%</u>	Color (n	noist)		Type ¹	Loc ²	Texture	Remarks		
0-4	<u>10YR</u>	2/2	100						CL			
4-18	5YR	4/3	85	7.5YR	5/6	15	С	М	С	Prominent redox		
						· ——						
						· ——						
¹Type: C=Co			etion, RM	=Reduced N	Matrix, MS	S=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix.		
Hydric Soil							(00) (1.5)			for Problematic Hydric Soils ³ :		
Histosol	(A1) pipedon (A2	1			lue Belo\ RA 149B)	w Surface	(S8) (LR	R R,		Muck (A10) (LRR K, L, MLRA 149B) Prairie Redox (A16) (LRR K, L, R)		
	stic (A3)	,			,		.RR R, M	LRA 149B)		Mucky Peat or Peat (S3) (LRR K, L, R)		
	n Sulfide (A	(4)				∕lineral (F1				Surface (S7) (LRR K, L)		
	d Layers (A				-	Matrix (F2)		Polyvalue Below Surface (S8) (LRR K, L)			
	d Below Dai		e (A11)		ed Matrix				Thin Dark Surface (S9) (LRR K, L)			
	ark Surface lucky Miner					rface (F6) Surface (F	7)		Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B)			
	Bleyed Matri					ions (F8)	,,		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
	ledox (S5)	(-)		_	.,	- (-,			Red Parent Material (F21)			
	Matrix (S6)								Very Shallow Dark Surface (TF12)			
Dark Su	rface (S7) (LRR R, M	ILRA 1491	3)					Other	(Explain in Remarks)		
3Indicators of	f hydronhyti	c vegetati	ion and w	atland hydro	logy mus	t ha nrase	ant unles	e dieturhad	or problemation	6		
Restrictive I		-	ion and w	-tiaria riyaro	logy illus	st be prese	int, unics	3 disturbed	T probleman	6.		
Type:	, (,										
	ches):								Hydric Soil Present? Yes No			
Remarks:	Jilos)											
Red clay	below (dark cl	av loar	n								
l tou olay	80.011	J	ay loa.	• • •								
l												



wasa052e_w1_N



wasa052e_w1_S

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ashland Sampling Date: 2019-10-09
•	State: WI Sampling Point: wasa052e_w2
_	Section, Township, Range: 046N-004W-06
	cal relief (concave, convex, none): Concave Slope (%): 0-2%
	B Long: <u>-90.911964</u> Datum: <u>WGS84</u>
	percent slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of ye	
	disturbed? Are "Normal Circumstances" present? Yes ✓ No
Are Vegetation, Soil, or Hydrology naturally pro	
SUMMARY OF FINDINGS – Attach site map showing	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	Is the Sampled Area
Hydric Soil Present? Yes ✓ No	within a Wetland? Yes <u>√</u> No
Wetland Hydrology Present? Yes No	If yes, optional Wetland Site ID:
Remarks: (Explain alternative procedures here or in a separate report Most mondow component of a DEM DEO component of a DEM DEM DEO component of a DEM	t.)
Wet meadow component of a PEM-PFO comp	lex which exterios into a hay field.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
Surface Water (A1) Water-Stained	
High Water Table (A2) Aquatic Fauna	
Saturation (A3) Marl Deposits (
Water Marks (B1) Hydrogen Sulfid Sediment Deposits (B2) Oxidized Rhizo	de Odor (C1) Crayfish Burrows (C8) spheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Oxidized Kitizo Oxidized Kitizo Drift Deposits (B3) Presence of Re	
<u> </u>	duction in Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck Surf	
Inundation Visible on Aerial Imagery (B7) Other (Explain	· · · · · · · · · · · · · · · · · · ·
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No _ ✓ _ Depth (inches)	:
Water Table Present? Yes No _ ✓ Depth (inches)	:
Saturation Present? Yes _ ✓ No Depth (inches)	: <u>0-10</u> Wetland Hydrology Present? Yes No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photo	s, previous inspections), if available:
Remarks:	
Water perched above restrictive clay layer.	

VEGETATION – Use scientific names of plants.

VEGETATION – Use scientific names of plants.				Sampling Point: wasa052e_w2
Trac Otration (Diet sine)	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size:30') 1		Species?		Number of Dominant Species
				That Are OBL, FACW, or FAC: 2.0 (A)
2				Total Number of Dominant Species Across All Strata: 2.0 (B)
3				
4. 5.				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)
6.				
7				Prevalence Index worksheet:
		= Total Cov		OBL species <u>47.0</u> x1 = <u>47.0</u>
Sapling/Shrub Stratum (Plot size: 15')		- 10tai 00t	701	FACW species $82.0 \times 2 = 164.0$
1. Salix petiolaris	10.0	V	FACW	FAC species 0.0 x 3 = 0.0
2. Alnus incana				FACU species 10.0 x 4 = 40.0
				UPL species x 5 =
3				Column Totals: <u>139.0</u> (A) <u>251.0</u> (B)
4. 5.				Prevalence Index = B/A =1.8
6				Hydrophytic Vegetation Indicators:
				✓ 1 - Rapid Test for Hydrophytic Vegetation
7				∠ 2 - Dominance Test is >50%
F!	12.0	= Total Cov	/er	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5')	70.0	V	E 4 0 \ 4 \	4 - Morphological Adaptations ¹ (Provide supporting
1. Phalaris arundinacea	70.0		FACW	data in Remarks or on a separate sheet)
2. <u>Scirpus cyperinus</u>		_N_	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Carex lacustris</u>		_N_	OBL	¹ Indicators of hydric soil and wetland hydrology must
4. <u>Juncus effusus</u>		_N_	OBL	be present, unless disturbed or problematic.
5. <u>Solidago altissima</u>		<u>N</u>	<u>FACU</u>	Definitions of Vegetation Strata:
6. <i>Trifolium pratense</i>			<u>FACU</u>	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7. <u>Lycopus americanus</u>			OBL	at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
9				
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				Woody vines – All woody vines greater than 3.28 ft in
12				height.
Washa Visa Otasiana (Blateira)	127.0	= Total Cov	/er	
Woody Vine Stratum (Plot size: 30')				
1				
2				
3				Hydrophytic
4				Vegetation
		= Total Cov	/er	
Remarks: (Include photo numbers here or on a separate s Plot is located at the edge of standing e		nt veget:	ation to	the west, and a hay field with cut
vegetation to the east. Shrubs in this pl	_	_		
wetland as a whole.				and the series germ perment of the

SOIL Sampling Point: wasa052e_w2

Profile Desc	cription: (D	escribe t	o the dep	oth needed	to docun	nent the in	ndicator	or confirm	the absence	of indicators.)	
Depth (inches)	Color (r	Matrix moist)	%	Color (n		x Features %	Type ¹	_Loc ²	Texture	Remarks	
0-6	<u>10YR</u>	2/1	90	5YR	5/8	_10	С	_M_	CL	Prominent redox	
6-12	<u>10YR</u>	3/1	_70	7.5YR	4/6	_30	С	_M_	SCL	Prominent redox	
12-18	5YR	5/8	60	10YR	3/1	_40	С	_M_	С		
¹Type: C=C	oncentration	n, D=Depl					Sand Gr		² Location	n: PL=Pore Lining, M=Matrix.	
Histosol				Polyva	lue Belov	v Surface	(S8) (I RI	R.R.		Muck (A10) (LRR K, L, MLRA 149B)	
Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) (LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRI Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MI)							Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L) Salue Below Surface (S8) (LRR K, L) Dark Surface (S9) (LRR K, L) Idanganese Masses (F12) (LRR K, L, R) Sont Floodplain Soils (F19) (MLRA 149B) Spodic (TA6) (MLRA 144A, 145, 149B) Sarent Material (F21) Shallow Dark Surface (TF12) (Explain in Remarks)				
³ Indicators o		_	ion and w	eliano nyoro	logy mus	t be prese	ni, unies:	s disturbed t	л рговієттаці	C.	
Туре:				<u></u>							
Depth (in	ches):								Hydric Soil Present? Yes <u>√</u> No		
Remarks: Loamy s	oils ove	r dens	e clay,	with sha	allow r	edox.					



wasa052e_w2_NW



wasa052e_w2_S

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: As	nland	Sampling Date: 2019-10-15
Applicant/Owner: Enbridge		State: WI	Sampling Point: wasa052f_w1
Investigator(s): ARK/NTT	Section, Township	o, Range: 046N-004W-()6
Landform (hillslope, terrace, etc.): Depression		=	
Subregion (LRR or MLRA): Northcentral Forests Lat:			
Soil Map Unit Name: Sanborg-Badriver com			
Are climatic / hydrologic conditions on the site typical for	or this time of year? Yes✓	No (If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology	significantly disturbed?	Are "Normal Circumstances" p	oresent? Yes No
Are Vegetation, Soil, or Hydrology		(If needed, explain any answe	
SUMMARY OF FINDINGS - Attach site m	ap showing sampling po	int locations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes✓	No Is the Sam	npled Area	
		/etland? Yes <u>√</u>	No
Wetland Hydrology Present? Yes✓	No If yes, option	onal Wetland Site ID:	
Remarks: (Explain alternative procedures here or in a			
Hardwood swamp at edge of hay fie	id. Part of a PEIVI-PFO	complex.	
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indica	ators (minimum of two required)
Primary Indicators (minimum of one is required; check	call that apply)	Surface Soil	Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Pa	tterns (B10)
	Aquatic Fauna (B13)	Moss Trim Li	ines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry-Season	Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burn	rows (C8)
	Oxidized Rhizospheres on Living	Roots (C3) Saturation Vi	sible on Aerial Imagery (C9)
	Presence of Reduced Iron (C4)		tressed Plants (D1)
	Recent Iron Reduction in Tilled S		
1 — · · · · · —	Thin Muck Surface (C7)	Shallow Aqui	
	Other (Explain in Remarks)	Microtopogra	
Sparsely Vegetated Concave Surface (B8) Field Observations:		FAC-Neutral	Test (D5)
	Depth (inches):		
	Depth (inches):		
	Depth (inches):	Wetland Hydrology Preser	nt? Yes <u>√</u> No
(includes capillary fringe)			it: 165 <u>v</u> 110
Describe Recorded Data (stream gauge, monitoring w	vell, aerial photos, previous inspec	tions), if available:	
Remarks:			
Saturated recharge wetland.			

VEGETATION – Use scientific names of plants.

/EGETATION – Use scientific names of plants				Sampling Point: wasa052f_w1				
Tree Stratum (Plot size: 30')	Absolute % Cover		t Indicator Status	Dominance Test worksheet:				
1. <u>Populus tremuloides</u>				Number of Dominant Species That Are OBL, FACW, or FAC: (A)				
2.				Total Number of Dominant Species Across All Strata: 3 (B)				
3 I				Percent of Dominant Species				
5.				That Are OBL, FACW, or FAC: 100.00 (A/B)				
S				Prevalence Index worksheet:				
7				Total % Cover of: Multiply by:				
	50	= Total Co	over	OBL species x 1 = 50				
Sapling/Shrub Stratum (Plot size:)				FACW species 12 x 2 = 24				
ı. <u>Alnus incana</u>	10	Y	FACW	FAC species x 3 = 150				
2				FACU species <u>5</u> x 4 = <u>20</u>				
3.				UPL species 0 x 5 = 0				
i.				Column Totals:117 (A)244 (B)				
5.				Prevalence Index = B/A =2.09				
S				Hydrophytic Vegetation Indicators:				
7.				1 - Rapid Test for Hydrophytic Vegetation				
		= Total Co		2 - Dominance Test is >50%				
F!		= 10tal CC	vei	3 - Prevalence Index is ≤3.0¹				
Herb Stratum (Plot size: 5') 1. <u>Calamagrostis canadensis</u>	50	<u>Y</u>	OBL	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)				
2. <u>Fragaria virginiana</u>		Ν	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)				
3. <u>Dryopteris carthusiana</u>			FACW	¹ Indicators of hydric soil and wetland hydrology must				
4				be present, unless disturbed or problematic.				
5				Definitions of Vegetation Strata:				
5 7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.				
3				Sapling/shrub – Woody plants less than 3 in. DBH				
)				and greater than or equal to 3.28 ft (1 m) tall.				
10 11				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.				
12.				Woody vines – All woody vines greater than 3.28 ft in				
	_57	= Total Co	over	height.				
Noody Vine Stratum (Plot size:)								
1								
2								
3				Hydrophytic				
4				Vegetation Present? Yes No				
	0.0	= Total Co	over	Tresent: Tes No				
Remarks: (Include photo numbers here or on a separate Wet-to-mesic forested with a canopy o	sheet.) f aspen,	but bla	ick ash i	s also present in the wetland.				

SOIL Sampling Point: wasa052f_w1

Profile Des	cription: (D	escribe 1	to the dep	th needed	to docun	nent the i	ndicator	or confirm	the absence	e of indicators.)	
Depth		Matrix	0/	Calar (a		x Features		1.22	Taratrana	Demonto	
(inches)	Color (r		<u>%</u>	Color (n	10IST)	%	Type'	_Loc ²	Texture	<u>Remarks</u>	
0-6	<u>10YR</u>	·	100						CL		
6-18	<u>5YR</u>	4/3	90	<u>7.5YR</u>	5/6	_10_	<u>C</u>	_M_	C	Prominent redox	
						-					
						-					
¹ Type: C=C	oncentration	n, D=Depl	etion, RM	=Reduced N	Matrix, MS	S=Masked	Sand Gr	ains.	² Location	n: PL=Pore Lining, M=Matrix.	
Hydric Soil	Indicators:	•							Indicators	for Problematic Hydric Soils ³ :	
Histoso		`		-		v Surface	(S8) (LR I	RR,		Muck (A10) (LRR K, L, MLRA 149B)	
	pipedon (A2 istic (A3))			RA 149B) ark Surfa		.RR R. M	LRA 149B)		Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R)	
Hydroge	en Sulfide (A			Loamy	Mucky N	lineral (F1) (LRR K		Dark S	Surface (S7) (LRR K, L)	
	d Layers (A5 d Below Dar		. (Δ11)		Gleyed I ed Matrix	Matrix (F2))		Polyvalue Below Surface (S8) (LRR K, L)		
-	ark Surface		(A11)			face (F6)			Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R)		
Sandy N	Mucky Miner	al (S1)		Deplet	ed Dark S	Surface (F	7)		Piedmont Floodplain Soils (F19) (MLRA 149B)		
-	Gleyed Matri	x (S4)		Redox	Depress	ions (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
-	Redox (S5) d Matrix (S6)								✓ Red Parent Material (F21) — Very Shallow Dark Surface (TF12) — Very Shallow Surface (TF12) — Very Shallow Shallow Surface (TF12) — Very Shallow Sha		
	ırface (S7) (I		ILRA 149	В)						(Explain in Remarks)	
³ Indicators o	of hydrophyti	c vegetat	ion and w	etland hydro	logy mus	t be prese	ent, unles	s disturbed	or problemati	C.	
Restrictive		-				· ·					
Туре:											
	iches):								Hydric Soi	I Present? Yes No	
Remarks:	m over r	مط مام	M								
Clay loa	iii ovei i	eu cia	у.								



wasa052f_w1_N



wasa052f_w1_S

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ashl:	and	Sampling Date: 2019-10-09
Applicant/Owner: Enbridge			
Investigator(s): ARK/MAL			
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests Lat: 46			
Soil Map Unit Name: Sanborg-Badriver comple			
Are climatic / hydrologic conditions on the site typical for thi			
Are Vegetation, Soil, or Hydrologys			
Are Vegetation, Soil, or Hydrology i			
SUMMARY OF FINDINGS – Attach site map	showing sampling point	t locations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes✓ N	No Is the Sampl	ed Area	
Hydric Soil Present? Yes ✓ N	141 1 104 4	land? Yes <u>√</u>	No
Wetland Hydrology Present? Yes ✓ N		al Wetland Site ID:	
Remarks: (Explain alternative procedures here or in a se		DEO compley	
Young trees and shrubs at edge of hay	TILEIU. FAIT OI A FEIVI-I	PPO complex.	
HYDROLOGY			
Wetland Hydrology Indicators:		•	tors (minimum of two required)
Primary Indicators (minimum of one is required; check all			
	ter-Stained Leaves (B9)	Drainage Pat	
	uatic Fauna (B13)	Moss Trim Li	
	rl Deposits (B15) drogen Sulfide Odor (C1)	•	Water Table (C2)
	dized Rhizospheres on Living Ro	Crayfish Burr	sible on Aerial Imagery (C9)
	sence of Reduced Iron (C4)		tressed Plants (D1)
1 — · · · · · —	cent Iron Reduction in Tilled Soils		
	n Muck Surface (C7)	✓ Shallow Aqui	
<u> </u>	er (Explain in Remarks)	Microtopogra	
Sparsely Vegetated Concave Surface (B8)	,	FAC-Neutral	
Field Observations:			
Surface Water Present? Yes No ✓ _ De	epth (inches):		
Water Table Present? Yes _ ✓ No De	pth (inches): <u>4-12</u>		
Saturation Present? Yes _ ✓ No De	pth (inches): <u>4-12</u>	Wetland Hydrology Presen	t? Yes/ No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well,	aerial photos, previous inspectic	ons), if available:	
		,	
Damada			
Remarks: Saturated recharge wetland. Restrictive	e clay laver perching v	water above.	
Cataratea reenalge wettanan reestitett	s day layer perering t	mater above.	

VEGETATION – Use scientific names of plants.

/EGETATION – Use scientific names of plants				Sampling Point: wasa052f_w2
Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	t Indicator Status	Dominance Test worksheet:
1. Populus tremuloides	40.0	Y	FAC	Number of Dominant Species That Are OBL, FACW, or FAC:4(A)
2. <u>Abies balsamea</u>	20.0	Υ	FAC	
3. Fraxinus pennsylvanica			FACW	Total Number of Dominant Species Across All Strata:4 (B)
4. <u>Acer rubrum</u>			FAC	Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	64	= Total Co	ver	OBL species x 1 = 5
Sapling/Shrub Stratum (Plot size:)				FACW species57 x 2 =114
1. <u>Alnus incana</u>	30.0	Y	<u>FACW</u>	FAC species69 x 3 =207
2. <u>Ilex verticillata</u>			<u>FACW</u>	FACU species 0 x 4 = 0
3. <u>Frangula alnus</u>	_5.0_	N	FAC	UPL species $0 \times 5 = 0$
4				Column Totals:131 (A)326 (B)
5				Prevalence Index = B/A = 2.49
6.				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Co	ver	∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size: 5')				3 - Prevalence Index is ≤3.0¹
1. Rubus pubescens	15.0	Υ	FACW	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. <u>Carex intumescens</u>		N	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Calamagrostis canadensis			OBL	
4. Symphyotrichum lateriflorum				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				
6.				Definitions of Vegetation Strata:
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8.				
9.				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
	27	= Total Co	ver	height.
Woody Vine Stratum (Plot size:30')				
1				
2.				
3				Hydrophytic
4.				Vegetation
		= Total Co	ver	Present? Yes ✓ No
Remarks: (Include photo numbers here or on a separate Sample plot is representative of most cin some canopy gaps. Black ash is also	of the PF			ne wetland. Speckled alder is dominant plot.

SOIL Sampling Point: wasa052f_w2

Profile Des	cription: (Describe t	o the de	oth needed	to docun	nent the i	indicator	or confirm	the absence	of indicators.)	
Depth	Matrix				x Feature:			_		
(inches)	Color (moist)		Color (n	noist)	<u>%</u>	Type ¹	Loc ²	Texture	Remarks	
0-3	7.5YR 3/3	100						CL		
3-12	7.5YR 4/3	85	<u>7.5YR</u>	5/8	<u> 15</u>	C	_M_	CL	Prominent redox	
12-18	7.5YR 4/3	_60	<u>7.5YR</u>	5/8	_20		_M_	C	Prominent redox	
12-18			5YR	5/6	_20	<u>C</u>	_M_	C		
					-					
						· ——				
						· ——				
¹ Type: C=C Hydric Soil	oncentration, D=Depl	etion, RM	=Reduced N	Matrix, MS	S=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils ³ :	
Histoso			Polyva	alue Belov	w Surface	(S8) (LRI	R R.		Muck (A10) (LRR K, L, MLRA 149B)	
Histic E	pipedon (A2)		MLF	RA 149B)				Coast	Prairie Redox (A16) (LRR K, L, R)	
	istic (A3) en Sulfide (A4)				ice (S9) (I ⁄lineral (F		LRA 149B)		Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L)	
	d Layers (A5)				Matrix (F2		., ∟)		alue Below Surface (S8) (LRR K, L)	
	d Below Dark Surface	e (A11)		ed Matrix					Dark Surface (S9) (LRR K, L)	
	ark Surface (A12) Mucky Mineral (S1)				rface (F6) Surface (F				langanese Masses (F12) (LRR K, L, R) nont Floodplain Soils (F19) (MLRA 149B)	
	Gleyed Matrix (S4)			Depress		')		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
	Redox (S5)							✓ Red Parent Material (F21)		
	d Matrix (S6) urface (S7) (LRR R, M	ILRA 149	В)						Shallow Dark Surface (TF12) (Explain in Remarks)	
³ Indicators of	of hydrophytic vegetati	ion and w	etland hydro	ology mus	t be prese	ent, unles	s disturbed	or problemati	c.	
Restrictive	Layer (if observed):									
Type:										
	ches):							Hydric Soil	I Present? Yes/ No	
Remarks:	m over dense	clav w	th redox	,						
Clay loa	in over dense	ciay w	illi icaox	٧.						
Ì										



wasa052f_w2_N



wasa052f_w2_S

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name:	Evaluator(s):		
Line 5 Relocation Project	NTT/DGL		
File #:	Date of visit(s):		
wasa052	09/10/2019		
Location:	Ecological Landsca	ipe:	
PLSS: <u>046N-004W-06</u>	Superior Coastal Plain		
	Ouperior Obastai Fiairi		
Lat: 46.49317223 Long: -90.9121611	Watershed: LS10 White River		
County: Ashland Town/City/Village: White River town			
SITE DESCRIPTION			
Soils:	WWI Class:		
Mapped Type(s):	T3/5Kr, T5/S3Kr		
580B, 226A, 756B, Sanborg-Badriver complex, 0 to 6 percent slopes, Allendale loamy fine sand, 0 to 3 percent slopes, Superior-Sedqwick complex, 0 to 6 percent slopes	Wetland Type(s):		
sand, o to 3 percent slopes, Superior-Seugwick complex, o to 6 percent slopes	PEM- Fresh wet meadow, PFO - Hardwood swamp		
Field Verified:		•	
Series not verified. The soils consist of a clay	Wetland Size:	Wetland Area Impacted	
loam over a sandy clay loam over a clay.	3.18	3.18	
	Vegetation:		
	Plant Community D	escription(s):	
Hydrology:	•	omplex that includes a wet	
Seasonally saturated based on FAC-Neutral test		ayfield and an adjacent hardwood	
and geomorphic position.		py dominated by quaking aspen	
g p		vith speckled alder.	

SITE MAP		

SECTION 1: Functional Value Assessment

			Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Υ	Y	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
5	N	N	In or adjacent to RED FLAG areas
			List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7			In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	Υ	Υ	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	Υ	Υ	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7		V	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
'	Υ	Y	plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present > 45 days
10	Ν	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
11	Ν	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	NA	NA	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2	N. 1. 0		Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
	NA	NA	water levels or high flows – if no, not applicable
3	NA	NA	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	V	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2		Υ	
3	Ν		Water flow through wetland is NOT channelized
9	N Y	N Y	
4	Υ	N	Water flow through wetland is NOT channelized
$\overline{}$	Y N	N Y	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology
4	Y N N	N Y N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow
4 5	Y N	N Y N N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland
4 5 6	Y N N	N Y N N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed
4 5 6 7	Y N N N	N Y N N N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland
4 5 6 7 8	Y N N N	N Y N N N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
4 5 6 7 8 WQ	Y N N N N	N Y N N N N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection
4 5 6 7 8 WQ	Y N N N N	N Y N N N N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section
4 5 6 7 8 WQ 1 2	Y N N N N N N	N Y N N N N N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet
4 5 6 7 8 WQ 1 2 3 4	Y N N N N N N	N Y N N N N N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream
4 5 6 7 8 WQ 1 2 3 4 5	Y N N N N N N N N N Y	N Y N N N N N N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation
4 5 6 7 8 WQ 1 2 3 4 5 6	Y N N N N N N N N N N N N N N N N N N N	N Y N N N N N N N N N N N N N N N N N N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
4 5 6 7 8 WQ 1 2 3 4 5 6 7	Y N N N N N N N N N N N N N N N N N N N	N Y N N N N N N N N N N N N N N N N N N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source
4 5 6 7 8 WQ 1 2 3 4 5 6 7	Y N N N N N N N N N N N N N N N N N N N	N Y N N N N Y N N Y N N N N N N N N N N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water
4 5 6 7 8 WQ 1 2 3 4 5 6 7 8	Y N N N N N N N N N N N N N N N N N N N	N Y N N N N N N N N N N N N N N N N N N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50%
4 5 6 7 8 WQ 1 2 3 4 5 6 7 8 9 GW	Y N N N N N N N N N N N N N N N N N N N	N Y N N N N N N N N N N N N N N N N N N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes
4 5 6 7 8 WQ 1 2 3 4 5 6 7 8 9 GW	Y N N N N N N N N N N N N N N N N N N N	N Y N N N N N N N N N N N N N N N N N N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present
4 5 6 7 8 WQ 1 2 3 4 5 6 7 8 9 GW	N N N N N N N N N N N N N N N N N N N	N Y N N N N N N N N N N N N N N N N N N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland
4 5 6 7 8 WQ 1 2 3 4 5 6 7 8 9 GW 1 2	Y	N Y N N N N N N N N N N N N N N N N N N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland Wetland remains saturated for an extended time period with no additional water inputs
4 5 6 7 8 WQ 1 2 3 4 5 6 7 8 9 GW	N N N N N N N N N N N N N N N N N N N	N Y N N N N N N N N N N N N N N N N N N	Water flow through wetland is NOT channelized Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland

Wi	Idlife Habita	at and Species Observation (including amphibians and reptiles)
	st: direct ob nter, etc.	oservation, tracks, scat, other sign; type of habitat: nesting, migratory,
Observed		Charles II labitati Cammanta
Observed	Potential Y	Species/Habitat/Comments White-tailed deer
Υ	Y	Songbirds
·	Y	Frogs
	•	
Eio	h and Agus	stic Life Hebitet and Species Observations
		atic Life Habitat and Species Observations oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observed	Potential	Species/Habitat
	Υ	Invertebrates

Section 1 Comments (Refer to Section 1 numbers)

WH6- large hardwood swamp that continues into a cut hayfield with a wet meadow component.

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4/	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
Salix petiolaris			PEM	Uncommon
Alnus incana			PEM	Uncommon
Phalaris arundinacea			PEM	Common
Carex lacustris			PEM	Uncommon
Scirpus cyperinus			PEM	Common
Juncus effusus			PEM	Uncommon
Solidago canadensis			PEM	Uncommon
Trifolium pratense			PEM	Uncommon
Lycopus americanus			PEM	Uncommon
Populus tremuloides			PFO	Common
Abies balsamea	balsam fir		PFO	Common
Fraxinus pennsylvanica			PFO	Uncommon
Acer rubrum			PFO	Uncommon
Alnus incana			PFO	Common
llex verticillata			PFO	Uncommon
Frangula alnus			PFO	Uncommon
Rubus pubescens			PFO	Uncommon
Carex intumescens			PFO	Uncommon
Calamagrostis canadensis			PFO	Uncommon
Symphyotrichum lateriflorum			PFO	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

Moderate floristic integrity. Fairly diverse hardwood swamp that is dominated by native species, but the wet meadow component is dominated by reed canary grass with common pasture grasses and weedy annuals throughout the hay field.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
` ,					Filling, berms (non-impounding)
	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
X	Х		M	С	Agriculture – hay
					Agriculture – pasture
X	Х		L	С	Roads or railroad
	Х		L	С	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
V	Х		М		Removal of herbaceous stratum – mowing,
X	^		IVI	С	grading, earthworms, etc.
	Х		L	С	Removal of tree or shrub strata – logging,
	^		L	C	unprescribed fire
	Χ		L	С	Human trails – unpaved
					Human trails – paved
	Χ		L	С	Removal of large woody debris
Χ	Χ		М	С	Cover of non-native and/or invasive species
	Χ		L	С	Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

Wetland complex associated with a hayfield that is dominated by non-native species. The forested component has
been disturbed in the past.

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity		✓			
Human Use Values	√				
Wildlife Habitat		✓			
Fish and Aquatic Life Habitat	√				
Shoreline Protection					1
Flood and Stormwater Storage	√				
Water Quality Protection	√				
Groundwater Processes	√				

FUNCTION	RATIONALE
Floristic Integrity	Fair diversity due to PEM and PFO components
Human Use Values	Potential for hunting in the PFO
Wildlife Habitat	Contains three strata and is near river corridor
Fish and Aquatic Life Habitat	No water present in wetland
Shoreline Protection	N/A
Flood and Stormwater Storage	Holds runoff from hayfield
Water Quality Protection	Dense, fairly intact vegetation
Groundwater Processes	Majority of input is from precipitation events

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County:	Ashland	Sar	mpling Date: <u>2019-10-17</u>
Applicant/Owner: Enbridge			State: WI	Sampling Point: wasa052e_u1
Investigator(s): ARK/NTT	Section, Tov	vnship, Range: <u>04</u> 0	6N-004W-06	
Landform (hillslope, terrace, etc.): Talf				
Subregion (LRR or MLRA): Northcentral Forests Lat: 2				
Soil Map Unit Name: Sanborg-Badriver comp				
Are climatic / hydrologic conditions on the site typical for				
Are Vegetation, Soil, or Hydrology	-			
Are Vegetation, Soil, or Hydrology				
SUMMARY OF FINDINGS – Attach site ma	p snowing sampling	point location	s, transects, im	iportant features, etc.
Hydrophytic Vegetation Present? Yes	140	Sampled Area		
Hydric Soil Present? Yes	NO <u>*</u>	n a Wetland?	Yes	No <u>√</u>
Wetland Hydrology Present? Yes Remarks: (Explain alternative procedures here or in a second content of the content of		, optional Wetland S	ite ID:	
The upland point is located within a h	ау пеіа.			
HYDROLOGY				
Wetland Hydrology Indicators:		<u>S</u>	econdary Indicators	(minimum of two required)
Primary Indicators (minimum of one is required; check a	all that apply)		_ Surface Soil Crac	cks (B6)
Surface Water (A1) W	/ater-Stained Leaves (B9)	_	Drainage Pattern	s (B10)
High Water Table (A2) A	quatic Fauna (B13)	_	_ Moss Trim Lines	(B16)
	arl Deposits (B15)	_	_ Dry-Season Wate	er Table (C2)
	ydrogen Sulfide Odor (C1)		Crayfish Burrows	
	xidized Rhizospheres on L			e on Aerial Imagery (C9)
	resence of Reduced Iron (_	_ Stunted or Stress	` '
	ecent Iron Reduction in Til		_ Geomorphic Posi	
	hin Muck Surface (C7)		_ Shallow Aquitard	
Inundation Visible on Aerial Imagery (B7) O Sparsely Vegetated Concave Surface (B8)	ther (Explain in Remarks)	_	MicrotopographicFAC-Neutral Tes	
Field Observations:		_	1 AO-Neullai 1es	(03)
	Depth (inches):			
	Depth (inches):			
	Depth (inches):		drology Present?	Yes No <u>√</u>
(includes capillary fringe)			h.l	
Describe Recorded Data (stream gauge, monitoring we	ii, aeriai pnotos, previous i	nspections), if availa	ible:	
Remarks:				
No wetland hydrology indicators were	observed.			

VEGETATION – Use scientific names of plants.

EGETATION – Use scientific names of plants				1	Sa	mpling Po	oint: wasa0	i5∠e_u
Tree Stratum (Plot size:30')			t Indicator Status					
·								(A)
				Total Number of [Dominant			
i				Species Across A			1	(B)
k				Percent of Domin				
5				That Are OBL, FA	ACW, or FA	4C:	0.00	(A/B
5		-		Prevalence Inde	x workshe	eet:		
7				Total % Cove	er of:	Mu	Itiply by:	
	0.0	= Total Co	ver	OBL species _				
Sapling/Shrub Stratum (Plot size: 15')				FACW species _				
				FAC species _ FACU species _				
				UPL species _		_		
s				Column Totals:				
·								
				Prevalence	Index = B	/A =	4.14	_
				Hydrophytic Veg				
				1 - Rapid Tes	-		egetation	
	= Total Cover			2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹				
Herb Stratum (Plot size: 5')				3 - Prevalend			Provido cur	portin
. <u>Poa pratensis</u>	75	Y	<u>FACU</u>	data in Re	emarks or	on a sepa	rate sheet)	portiiri
. Bromus inermis	15	N	UPL	Problematic I	Hydrophyti	ic Vegetat	ion¹ (Expla	ıin)
3. <u>Trifolium repens</u>	10	N	<u>FACU</u>	1				
. <u>Taraxacum officinale</u>		N	FACU	¹ Indicators of hyd be present, unles				must
s. Phleum pratense	2	N	FACU	Definitions of Ve				
). 								
7				Tree – Woody pla at breast height (I				amete
3.				Sapling/shrub –			-	ND LL
)				and greater than				ווטי
0				Herb – All herbad	eous (non	ı-woodv) r	olants, rega	ardless
11.				of size, and wood				
2.				Woody vines – A	All woody v	rines grea	ter than 3.2	28 ft in
	107	= Total Co	ver	height.				
Voody Vine Stratum (Plot size: 30')								
:								
				Hydrophytic				
				Vegetation				
T		- Total Co	avor.	Present?	Yes	No	_ <u> </u>	
3	0.0	= Total Co	- ——	•	Yes	No	o_√_	

SOIL Sampling Point: wasa052e_u1

Profile Des	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of indicators.)		
Depth	Matrix			x Feature:	4	1.2.2	Taurium	wl	
(inches)	Color (moist) 10YR 3/2	100	Color (moist)	%	Type'	Loc ²	Texture Rema	rks	
8-18							CI		
0-10	7.511X 3/3	100							
		-							
									
17	- D. D. D.		Dardon and Marketon MAC				21 and the District Market Mar	B. A. e. Color	
Hydric Soil	oncentration, D=Depl Indicators:	etion, Rivi=	Reduced Matrix, Mis	s=iviasked	Sand Gra	ains.	² Location: PL=Pore Lining, M= Indicators for Problematic Hyd		
Histoso	I (A1)		Polyvalue Belov	w Surface	(S8) (LRF	RR,	2 cm Muck (A10) (LRR K, L		
	pipedon (A2) istic (A3)		MLRA 149B) Thin Dark Surfa		DD D MI	DA 440B)	Coast Prairie Redox (A16) (5 cm Mucky Peat or Peat (S		
l ——	en Sulfide (A4)		Loamy Mucky N				Dark Surface (S7) (LRR K,		
	d Layers (A5)		Loamy Gleyed)		Polyvalue Below Surface (S	8) (LRR K, L)	
	d Below Dark Surface ark Surface (A12)	e (A11)	Depleted Matrix Redox Dark Su				Thin Dark Surface (S9) (LR Iron-Manganese Masses (F		
	Mucky Mineral (S1)	•	Depleted Dark \$		7)		Piedmont Floodplain Soils (
	Gleyed Matrix (S4)		Redox Depress	ions (F8)			Mesic Spodic (TA6) (MLRA	144A, 145, 149B)	
	Redox (S5) d Matrix (S6)						Red Parent Material (F21)Very Shallow Dark Surface	(TF12)	
	urface (S7) (LRR R, N	ILRA 149B)				Other (Explain in Remarks)	(11 12)	
³ Indicators o	of hydrophytic vegetat	ion and we	tland hydrology mus	t be prese	ent, unless	disturbed	or problematic.		
Restrictive	Layer (if observed):								
Type:							Hadria Oali Barranio Van	N- (
Depth (in	ches):						Hydric Soil Present? Yes	No <u></u>	
Remarks:	c soil indicator	s obser	ved.						
I to Hyan		0 00001	vou.						



wasa052e_u1_N



wasa052e_u1_S

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	ı <mark>land</mark> s	ampling Date: <u>2019-10-09</u>			
Applicant/Owner: Enbridge		State: WI	Sampling Point: wasa052e_u2			
Investigator(s): ARK/MAL	, Range: <u>046N-004W-06</u>					
Landform (hillslope, terrace, etc.): Talf						
Subregion (LRR or MLRA): Northcentral Forests Lat: 46						
Soil Map Unit Name: Sanborg-Badriver comple						
Are climatic / hydrologic conditions on the site typical for thi	s time of year? Yes N	lo (If no, explain in Rem	narks.)			
Are Vegetation, Soil, or Hydrologys	significantly disturbed?	Are "Normal Circumstances" pres	sent? Yes No			
Are Vegetation, Soil, or Hydrology r	naturally problematic? (If needed, explain any answers i	in Remarks.)			
SUMMARY OF FINDINGS – Attach site map	showing sampling poir	nt locations, transects, i	mportant features, etc.			
Hydrophytic Vegetation Present? Yes N	ls the Sam					
Hydric Soil Present? Yes ✓ N	lo within a We	etland? Yes	No <u>√</u>			
Wetland Hydrology Present? Yes N		nal Wetland Site ID:				
Remarks: (Explain alternative procedures here or in a set Upland sample point recorded in a hay	parate report.)					
Opidita sample point recorded in a may	neiu.					
HYDROLOGY						
Wetland Hydrology Indicators:		·	s (minimum of two required)			
Primary Indicators (minimum of one is required; check all		Surface Soil Cra	` '			
	ter-Stained Leaves (B9)	Drainage Patter				
High Water Table (A2) Aqu Caturation (A2)	Moss Trim Lines (B16)					
Saturation (A3) Mar	Dry-Season Water Table (C2) Crayfish Burrows (C8)					
	drogen Sulfide Odor (C1) dized Rhizospheres on Living F		ole on Aerial Imagery (C9)			
	sence of Reduced Iron (C4)		ssed Plants (D1)			
	cent Iron Reduction in Tilled So					
	n Muck Surface (C7)	Shallow Aquitar				
	er (Explain in Remarks)					
Sparsely Vegetated Concave Surface (B8)	,	FAC-Neutral Te				
Field Observations:						
Surface Water Present? Yes No ✓ _ De	epth (inches):					
Water Table Present? Yes No ✓ _ De	epth (inches):					
	epth (inches):	Wetland Hydrology Present?	Yes No <u>√</u>			
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well,	aerial photos, previous inspect	ions). if available:				
	,					
Remarks: No indicators of wetland hydrology wer	e observed					
The malators of wettaria flyarology from	C Obscived.					

VEGETATION – Use scientific names of plants.

Number of Inthat Are Off That Are Off Total Numb Species Ac Percent of Inthat Are Off That Are Off That Are Off Prevalence Total % OBL specie FACW specie FACU specie FACU specie Column Total Prevalence Total % OBL specie FACW specie FACU specie Total % OBL specie FACW s	Provide the transfer of the t
Number of I That Are Of That A	BL, FACW, or FAC: 0 (A) per of Dominant ross All Strata: 2 (B) Dominant Species BL, FACW, or FAC: 0.00 (A/B) Per Index worksheet: 0.00 (B) Per Index workshee
Percent of I That Are Of Prevalence Total % OBL specie FACW specie FACU specie FACU specie Column Tot Preval Hydrophyti 1 - Rap 2 - Don 3 - Prev 4 - Mor data FACU FACU FACU FACU FACU FACU FACU FACU	Pross All Strata: 2 (B) Dominant Species BL, FACW, or FAC: 0.00 (A/B) Parameter Index worksheet: Cover of: Multiply by: Example Species Speci
Percent of I That Are Off That Are Off That Are Off I That Are Off	Dominant Species BL, FACW, or FAC: O,00 A/B) P Index worksheet: C Cover of: 0 0 0 0 0 0 0 0
Prevalence Total % OBL specie FACW specie FACU specie Column Total Prevalence FAC specie FACU specie Column Total Prevalence UPL specie Column Total Prevalence UPL specie Column Total Prevalence UPL specie Column Total Prevalence A + Morophyti	e Index worksheet: 6 Cover of:
Total % ver OBL specie FACW specie FACU specie FACU specie Column Total Preva Hydrophyti 1 - Rap 2 - Don 3 - Prev 4 - Mor 4 - Mor 4 - Mor 5 ACU FACU FACU FACU FACU Definitions	Multiply by: Solution of the content of the conte
Ver OBL specie FACW specie FACU specie FACU specie Column Tot Preva Hydrophyti 1 - Rap 2 - Don 3 - Prev 4 - Mor data FACU FACU FACU FACU FACU FACU Definitions	cies $0 \times 1 = 0$ cies $0 \times 2 = 0$ cies $0 \times 3 = 0$ cies $55 \times 4 = 220$ cies $50 \times 5 = 250$ ctals: $105 \times 6 \times 6 \times 6 = 250$ ctals: $105 \times 6 \times 6 \times 6 \times 6 = 250$ ctals: $105 \times 6 = 250$ ctals: $105 \times 6 \times $
FACW species FACU species FACU species FACU species Column Total Prevaluation Preva	cies 0 $x 2 = 0$ es 0 $x 3 = 0$ cies 55 $x 4 = 220$ es 50 $x 5 = 250$ tals: 105 (A) 470 (B) elence Index $= B/A = 4.48$ ic Vegetation Indicators: oid Test for Hydrophytic Vegetation ninance Test is $>50\%$ evalence Index is $\le 3.0^1$ exphological Adaptations ¹ (Provide supporting a in Remarks or on a separate sheet) matic Hydrophytic Vegetation ¹ (Explain)
FAC specie FACU specie FACU specie Column Toto Prevariation 1 - Rap 2 - Don 3 - Prevariation 4 - Mor data FACU FACU Problem FACU FACU Definitions	ties 0 $x = 0$ ties 55 $x = 220$ tals: 50 $x = 250$ tals: 105 (A) 470 (B) tience Index $x = 105$ (A) (A) tience Index $x = 105$ (A) tience In
FACU specience UPL specience Column Total Preval Hydrophytis 1 - Rap 2 - Don 3 - Preval 4 - More data FACU Problem FACU FACU Problem be present, FACU Definitions	ties $\underline{55}$ $x = 4 = 220$ tals: $\underline{50}$ $x = 50$ tals: $\underline{105}$ $x $
UPL specie Column Tot Preva Hydrophyti 1 - Rap 2 - Don 3 - Prev 4 - Mor data FACU Probler FACU Indicators of be present, FACU Definitions	tals: 50 $x = 250$
Column Total Prevation Hydrophyti 1 - Rap 2 - Don 3 - Prevation 4 - Mor data FACU Probler FACU FACU FACU Definitions	tals:
Prevate	ic Vegetation Indicators: oid Test for Hydrophytic Vegetation ninance Test is >50% valence Index is ≤3.0¹ rphological Adaptations¹ (Provide supporting a in Remarks or on a separate sheet) matic Hydrophytic Vegetation¹ (Explain) of hydric soil and wetland hydrology must
Hydrophyti 1 - Rap 2 - Don 3 - Prev 4 - Mor data FACU — Probler FACU FACU be present, FACU Definitions	ic Vegetation Indicators: oid Test for Hydrophytic Vegetation ninance Test is >50% valence Index is ≤3.0¹ rphological Adaptations¹ (Provide supporting a in Remarks or on a separate sheet) matic Hydrophytic Vegetation¹ (Explain) of hydric soil and wetland hydrology must
1 - Rap2 - Don3 - Prev4 - Mor4 - Mor4 - Mor	oid Test for Hydrophytic Vegetation ninance Test is >50% valence Index is ≤3.0¹ rphological Adaptations¹ (Provide supporting a in Remarks or on a separate sheet) matic Hydrophytic Vegetation¹ (Explain) of hydric soil and wetland hydrology must
ver 2 - Don 3 - Prev 4 - Mor data FACU — Probler FACU FACU be present, FACU Definitions	ninance Test is >50% valence Index is ≤3.0¹ rphological Adaptations¹ (Provide supporting a in Remarks or on a separate sheet) matic Hydrophytic Vegetation¹ (Explain) of hydric soil and wetland hydrology must
	valence Index is ≤3.0 ¹ rphological Adaptations ¹ (Provide supporting a in Remarks or on a separate sheet) matic Hydrophytic Vegetation ¹ (Explain) of hydric soil and wetland hydrology must
4 - Mor data FACU Probler FACU Indicators of be present, FACU Definitions	phological Adaptations ¹ (Provide supporting a in Remarks or on a separate sheet) matic Hydrophytic Vegetation ¹ (Explain) of hydric soil and wetland hydrology must
FACU Problem FACU Indicators to be present, FACU Definitions	matic Hydrophytic Vegetation ¹ (Explain) of hydric soil and wetland hydrology must
FACU Definitions	of hydric soil and wetland hydrology must
FACU Definitions	
FACU Definitions	unless disturbed or problematic.
Deminions	<u>'</u>
FACIL	of Vegetation Strata:
Tree – Woo	ody plants 3 in. (7.6 cm) or more in diameter
Sapling/sh	rub – Woody plants less than 3 in. DBH
and greater	than or equal to 3.28 ft (1 m) tall.
	nerbaceous (non-woody) plants, regardless woody plants less than 3.28 ft tall.
	es – All woody vines greater than 3.28 ft in
ver height.	
	ic
Vegetation	l
	Yes No <u></u>
Co	at breast he Sapling/sh and greater Herb – All h of size, and Woody vin height. Hydrophyt

SOIL Sampling Point: wasa052e_u2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth	Matrix		0-1		x Feature:		12	T d	Describe	
(inches)	Color (moist) 7.5YR 3/3	100	Color (n	noist)	%	Type ¹	Loc ²	Texture	Remarks	
			7 EVD	<i>E</i> /0	10	С	M		Draminant raday	
3-12	7.5YR 3/3	90							Prominent redox	
12-18	<u>5YR 5/6</u>	_80_	<u>7.5YR</u>	5/8	_20_	<u>C</u>	_M_		Prominent redox	
		· 				-				
	-	. ——	-			-				
			-		·				·	
1								2		
'Type: C=C Hydric Soil	oncentration, D=Dep	letion, RM	=Reduced N	Matrix, MS	S=Masked	I Sand Gr	ains.		n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils ³ :	
Histosol			Polyva	lue Belov	w Surface	(S8) (LR	R R,		Muck (A10) (LRR K, L, MLRA 149B)	
Histic E	pipedon (A2)		MLF	RA 149B))			Coast	Prairie Redox (A16) (LRR K, L, R)	
	istic (A3) en Sulfide (A4)				ice (S9) (I ⁄Iineral (F		LRA 149B)		Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L)	
	d Layers (A5)			-	Matrix (F2		·, - /		alue Below Surface (S8) (LRR K, L)	
	d Below Dark Surface	e (A11)		ed Matrix				Thin Dark Surface (S9) (LRR K, L)		
	ark Surface (A12) Mucky Mineral (S1)				rface (F6) Surface (F				langanese Masses (F12) (LRR K, L, R) ont Floodplain Soils (F19) (MLRA 149B)	
	Gleyed Matrix (S4)				ions (F8)	.,		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
	Redox (S5)							✓ Red Parent Material (F21) ✓ Very Shallow Dark Surface (TF12) ✓ TF12 ✓ TF12		
	l Matrix (S6) rface (S7) (LRR R, N	ILRA 149	В)						Explain in Remarks)	
³ Indicators o	f hydrophytic vegetat	ion and w	etland hydro	ology mus	st be prese	ent, unles	s disturbed	or problemati	c.	
	Layer (if observed):									
Type:								Unalpia Cail	Present2 Vec / No	
	ches):							Hydric Soil	Present? Yes/ No	
Remarks:	n redox in lowe	er lavei	·s							
Olay With	Trodox III low	or layor	0.							



wasa052e_u2_E



wasa052e_u2_S

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County:	Ashland	Sampling Date: 2019-10-15			
•		Sampling Point: wasa052f_u1				
Investigator(s): ARK/NTT						
Landform (hillslope, terrace, etc.): Talf						
Subregion (LRR or MLRA): Northcentral Forests						
Soil Map Unit Name: Sanborg-Badriver c						
Are climatic / hydrologic conditions on the site typic						
Are Vegetation ✓, Soil, or Hydrology						
Are Vegetation, Soil, or Hydrology _						
SUMMARY OF FINDINGS – Attach site	e map showing sampling	g point locations, transec	ts, important features, etc.			
Hydrophytic Vegetation Present? Yes	No <u>√</u> Is the	e Sampled Area				
		n a Wetland? Yes	No <u>√</u>			
		, optional Wetland Site ID:	_			
Remarks: (Explain alternative procedures here of The upland point is located within	r in a separate report.)	hoon recently haved				
The upland point is located within	a nay nelu. 1 lelu nas	been recently hayeu.				
HYDROLOGY						
Wetland Hydrology Indicators:			icators (minimum of two required)			
Primary Indicators (minimum of one is required; c	heck all that apply) Water-Stained Leaves (B9)					
	Patterns (B10)					
	Aquatic Fauna (B13)		Moss Trim Lines (B16) Dry-Season Water Table (C2)			
	Marl Deposits (B15)Hydrogen Sulfide Odor (C1)		Dry-Season Water Table (C2) Crayfish Burrows (C8)			
	Oxidized Rhizospheres on L		Visible on Aerial Imagery (C9)			
	Presence of Reduced Iron (Stressed Plants (D1)			
1 — · · · ·		cent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2)				
	Thin Muck Surface (C7)					
	Other (Explain in Remarks)					
Sparsely Vegetated Concave Surface (B8)			ral Test (D5)			
Field Observations:						
Surface Water Present? Yes No	✓ Depth (inches):					
Water Table Present? Yes No	✓ Depth (inches):					
	✓ Depth (inches):	Wetland Hydrology Pres	sent? Yes No✓			
(includes capillary fringe) Describe Recorded Data (stream gauge, monitori	ng well, aerial photos, previous i	nspections), if available:				
Remarks:						
No indicators of wetland hydrolog	ıv were observed.					
, , , , , , , , , , , , , , , , , , , ,	,,					

VEGETATION – Use scientific names of plants.

VEGETATION - Use scientific names of plants				Sampling Point: wasa052f_u1
Tree Stratum (Plot size:30')			t Indicator Status	Dominance Test worksheet:
1		-		Number of Dominant Species That Are OBL, FACW, or FAC:(A)
2				Total Number of Dominant Species Across All Strata: (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 0.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0.0	= Total Co	over	OBL species x 1 = 0
Sapling/Shrub Stratum (Plot size: 15')				FACW species 0 x 2 = 0
1				FAC species
2				FACU species <u>35</u> x 4 = <u>140</u>
3				UPL species $\underline{50}$ $x = \underline{250}$
4.				Column Totals: <u>85</u> (A) <u>390</u> (B)
5				Prevalence Index = B/A =4.59
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Co		2 - Dominance Test is >50%
	0.0	= Total Co	over	3 - Prevalence Index is ≤3.0 ¹
Herb Stratum (Plot size: 5') 1. Bromus inermis	50	Υ	UPL	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Phleum pratense		Y	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Taraxacum officinale		N	FACU	
4. Lotus corniculatus				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
12.		Tatal Ca		height.
Woody Vine Stratum (Plot size:30')		= Total Co	over	
1				
2				
3		-		Hydrophytic
4				Vegetation Present? Yes No ✓
	0.0	= Total Co	over	
Remarks: (Include photo numbers here or on a separate Vegetation has been recently cut. Most	sheet.) t species	s prese	ent have	been introduced for hay.

SOIL Sampling Point: wasa052f_u1

Profile Desc	cription: (Describe t	to the dept	h needed to docun	nent the	indicator	or confirm	the absence of indicators.)
Depth	Matrix		Redo	x Feature	s1	. 2	
(inches)	Color (moist)	<u>%</u>	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture Remarks
0-8	·	100					
8-18	5YR 5/6	100			· ———		
	- <u></u> -						
	<u> </u>						
					<u> </u>		
¹Type: C=Ce	oncentration, D=Depl	etion, RM=	Reduced Matrix, MS	S=Maske	d Sand Gr	ains.	² Location: PL=Pore Lining, M=Matrix.
Hydric Soil							Indicators for Problematic Hydric Soils ³ :
Histosol	(A1) pipedon (A2)		Polyvalue Belov MLRA 149B)		(S8) (LR I	RR,	2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R)
	istic (A3)		Thin Dark Surfa		LRR R, M	LRA 149B)	
Hydroge	en Sulfide (A4)		Loamy Mucky N	/lineral (F	1) (LRR K		Dark Surface (S7) (LRR K, L)
	d Layers (A5) d Below Dark Surface	· (A11)	Loamy Gleyed I Depleted Matrix		2)		Polyvalue Below Surface (S8) (LRR K, L)Thin Dark Surface (S9) (LRR K, L)
	ark Surface (A12)	<i>(</i> A11)	Redox Dark Sui)		Iron-Manganese Masses (F12) (LRR K, L, R)
Sandy N	Mucky Mineral (S1)		Depleted Dark S	Surface (F			Piedmont Floodplain Soils (F19) (MLRA 149E
	Gleyed Matrix (S4)		Redox Depress	ions (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
	Redox (S5) I Matrix (S6)						Red Parent Material (F21) Very Shallow Dark Surface (TF12)
	rface (S7) (LRR R, N	ILRA 149B)				Other (Explain in Remarks)
31	f harden had a constat		de ed bodeste economic	()		a alta ta ada a at	Landard Marie Control
	f hydrophytic vegetat Layer (if observed):		tiand nydrology mus	t be pres	ent, unies:	s disturbed	or problematic.
Type:							
Depth (in	ches):						Hydric Soil Present? Yes No✓
Remarks:							
Reddish	clay througho	ut the p	rofile.				



wasa052f_u1_N



wasa052f_u1_S

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Pro	iect	City/County: Ash	nland	Sampling Date: 2019-10-09
Applicant/Owner: Enbridge	•			
Investigator(s): ARK/MAL				
Landform (hillslope, terrace, etc.): Depres				
Subregion (LRR or MLRA): Northcentral Fo				
Soil Map Unit Name: Sanborg-Badriv				
Are climatic / hydrologic conditions on the site		•	•	
Are Vegetation, Soil, or Hydro				
Are Vegetation, Soil, or Hydro				
SUMMARY OF FINDINGS – Attac	h site map show	ing sampling poi	nt locations, transe	cts, important features, etc.
Hydric Soil Present? Y	es	within a W	pled Area etland? Yes	✓ No
Wetland Hydrology Present? Y Remarks: (Explain alternative procedures h	es <u>√</u> No		nal Wetland Site ID:	
wetland leads to a larger com		THE CUITCH 30		
Wetland Hydrology Indicators:			Secondary In	dicators (minimum of two required)
Primary Indicators (minimum of one is requi	red; check all that ap	ply)	· ·	Soil Cracks (B6)
Surface Water (A1)		ined Leaves (B9)		e Patterns (B10)
High Water Table (A2)	Aquatic Fa			m Lines (B16)
Saturation (A3)	Marl Depo	sits (B15)	Dry-Seas	son Water Table (C2)
Water Marks (B1)		Sulfide Odor (C1)		Burrows (C8)
Sediment Deposits (B2)		Rhizospheres on Living		on Visible on Aerial Imagery (C9)
Drift Deposits (B3)		of Reduced Iron (C4)		or Stressed Plants (D1)
Algal Mat or Crust (B4) Iron Deposits (B5)	Recent no	n Reduction in Tilled So	olis (C6)	ohic Position (D2)
Inundation Visible on Aerial Imagery (B	· · · · · · · · · · · · · · · · · · ·	plain in Remarks)		ographic Relief (D4)
Sparsely Vegetated Concave Surface (,		utral Test (D5)
Field Observations:	· ·			` '
Surface Water Present? Yes	No ✓ Depth (inc	ches):		
Water Table Present? Yes	No✓ Depth (inc	ches):		
	No _ ✓ Depth (inc	ches):	Wetland Hydrology Pre	esent? Yes/ No
(includes capillary fringe) Describe Recorded Data (stream gauge, mo	onitoring well, aerial	photos, previous inspec	tions), if available:	
			•	
Domarka				
Remarks: Swale with water flowing thro	ugh after rece	nt rain, pooling	in portions of the	wetland.
Chair mater neuring and	agir aitor 1000	in rain, poomig	ni portiono or tiro	

VEGETATION – Use scientific names of plants.

Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC:
Number of Dominant Species That Are OBL, FACW, or FAC:
Total Number of Dominant Species Across All Strata:
Species Across All Strata:
That Are OBL, FACW, or FAC:
Prevalence Index worksheet:
Total % Cover of: Multiply by: OBL species 5 x 1 = 5 FACW species 39 x 2 = 78 FAC species 0 x 3 = 0 FACU species 10 x 4 = 40 UPL species 0 x 5 = 0 Column Totals: 54 (A) 123 (B) Prevalence Index = B/A = 2.28 Hydrophytic Vegetation Indicators: ✓ 1 - Rapid Test for Hydrophytic Vegetation ✓ 2 - Dominance Test is >50% ✓ 3 - Prevalence Index is ≤3.0¹ — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) FACW FACU OBL FACW FACW FACW Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
OBL species 5 x 1 = 5 FACW species 39 x 2 = 78 FAC species 0 x 3 = 0 FACU species 10 x 4 = 40 UPL species 0 x 5 = 0 Column Totals: 54 (A) 123 (B) Prevalence Index = B/A = 2.28 Hydrophytic Vegetation Indicators: ✓ 1 - Rapid Test for Hydrophytic Vegetation ✓ 2 - Dominance Test is >50% ✓ 3 - Prevalence Index is ≤3.0¹ — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) FACU OBL FACU Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
FACW species 3.9 x 2 = 78 FAC species 0 x 3 = 0 FACU species 10 x 4 = 40 UPL species 0 x 5 = 0 Column Totals: 54 (A) 123 (B) Prevalence Index = B/A = 2.28 Hydrophytic Vegetation Indicators: ✓ 1 - Rapid Test for Hydrophytic Vegetation ✓ 2 - Dominance Test is >50% ✓ 3 - Prevalence Index is ≤3.0¹ — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) FACW FACU OBL FACW FAC
FAC species 0 x 3 = 0 FACU species 10 x 4 = 40 UPL species 0 x 5 = 0 Column Totals: 54 (A) 123 (B) Prevalence Index = B/A = 2.28 Hydrophytic Vegetation Indicators: ✓ 1 - Rapid Test for Hydrophytic Vegetation ✓ 2 - Dominance Test is >50% ✓ 3 - Prevalence Index is ≤3.0¹ — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) FACW FACU OBL FACW
FACU species 10 x 4 = 40 UPL species 0 x 5 = 0 Column Totals: 54 (A) 123 (B) Prevalence Index = B/A = 2.28 Hydrophytic Vegetation Indicators: ✓ 1 - Rapid Test for Hydrophytic Vegetation ✓ 2 - Dominance Test is >50% ✓ 3 - Prevalence Index is ≤3.0¹ — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) FACU OBL FACW
UPL species 0 x 5 = 0 Column Totals: 54 (A) 123 (B) Prevalence Index = B/A = 2.28 Hydrophytic Vegetation Indicators: ✓ 1 - Rapid Test for Hydrophytic Vegetation ✓ 2 - Dominance Test is >50% ✓ 3 - Prevalence Index is ≤3.0¹ — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) FACU OBL FACW FACW Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Column Totals:
Prevalence Index = B/A = 2.28 Hydrophytic Vegetation Indicators: ✓ 1 - Rapid Test for Hydrophytic Vegetation ✓ 2 - Dominance Test is >50% ✓ 3 - Prevalence Index is ≤3.0¹ — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) FACU OBL FACW FACW Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Hydrophytic Vegetation Indicators: ∠ 1 - Rapid Test for Hydrophytic Vegetation ∠ 2 - Dominance Test is >50% ∠ 3 - Prevalence Index is ≤3.0¹ — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) FACU OBL FACW Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) FACU OBL FACW FACW Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2 - Dominance Test is >50% 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) FACU OBL Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) FACU OBL FACW Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
FACW 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) — Problematic Hydrophytic Vegetation¹ (Explain) OBL FACW Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Problematic Hydrophytic Vegetation¹ (Explain) OBL Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
OBL Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
FACM Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
EVC/W
Definitions of Vegetation Strata:
Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub – Woody plants less than 3 in. DBH
and greater than or equal to 3.28 ft (1 m) tall.
Herb – All herbaceous (non-woody) plants, regardless
of size, and woody plants less than 3.28 ft tall.
Woody vines – All woody vines greater than 3.28 ft in
height.
Hydrophytic
Vegetation Present? Yes No
er les v No

SOIL Sampling Point: wasa054e_w

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth Matrix Redox Features									
(inches)	Color (moist) 10YR 3/1	90	Color (n	5/6	<u>%</u> 10	Type'	Loc ²	Texture CI	Remarks Prominent radov
							IVI	<u> </u>	Prominent redox
6-12	10YR 4/1	80	7.5YR		20		_IVI_	CL	Prominent redox
<u> 12-18</u>	5YR 5/6	80	<u>10YR</u>	4/1	_20_	D	_M_	C	Prominent redox
		<u> </u>							
		-							
		_							
¹ Type: C=C	oncentration, D=Dep	letion RM	I=Reduced N	Natrix MS	S=Masked	Sand Gr	ains	² l ocatio	n: PL=Pore Lining, M=Matrix.
Hydric Soil		notion, reiv	i–rteadoca n	natrix, ivic	J-Masked	TOUTIO OF	uii 10.		s for Problematic Hydric Soils ³ :
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Redox (S5) Stripped Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B) Loamy Mucky Mineral (F1) (LRR K, L) Depleted Matrix (F2) Pepleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8)							LRA 149B) , L)	Coasi 5 cm Dark: Polyve Thin I Iron-N Piedn Mesic Red F Very: Other	Muck (A10) (LRR K, L, MLRA 149B) Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L) alue Below Surface (S8) (LRR K, L) Dark Surface (S9) (LRR K, L) Manganese Masses (F12) (LRR K, L, R) nont Floodplain Soils (F19) (MLRA 149B) Spodic (TA6) (MLRA 144A, 145, 149B) Parent Material (F21) Shallow Dark Surface (TF12) (Explain in Remarks)
	Layer (if observed)	:							
Type:	ches):							Hydric Soi	I Present? Yes No
Remarks:	ones).								
	m over clay w	ith redo	ox conce	ntratio	on and	deplet	ions.		



wasa054e_w_E



wasa054e_w_S

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION				
Project name:	Evaluator(s):			
Line 5 Relocation Project	NTT/DGL			
File #:	Date of visit(s):			
wasa054	09/10/2019			
Location:	Ecological Landsca	ape:		
PLSS: <u>046N-004W-06</u>	Superior Coastal Plain			
	Superior Soustain fain			
Lat: <u>46.489489</u> Long: <u>-90.907965</u>	Watershed:			
	LS10 White River			
County: Ashland Town/City/Village: White River town				
SITE DESCRIPTION				
Soils:	WWI Class:			
Mapped Type(s):	N/A			
580B, Sanborg-Badriver complex, 0 to 6 percent slopes	Wetland Type(s):			
	PEM- Fresh wet meadow			
Field Verified:				
Series not verified. The soils consist of a clay	Wetland Size:	Wetland Area Impacted		
loam over a clay texture.	0.04	0.04		
	Vegetation:			
	Plant Community Description(s):			
Hydrology:	Wet depression in a swale within a hay field			
Seasonally saturated based on FAC-Neutral test	dominated by non-native species.			
and geomorphic position.	dominated by no	on-native species.		
	l .			

SITE MAP		

SECTION 1: Functional Value Assessment

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Ν	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
	- ' '	- 11	In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	IN	111	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N	N N	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5			Occurs in a Joint Venture priority township
6	N	N	
0	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
7	N	Υ	
			plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present > 45 days
10	N	N	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	Ν	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	Ν	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	NA	NA	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	NA	NA	water levels or high flows – if no, not applicable
3	NA	NA	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	N	N	Water flow through wetland is NOT channelized
3	Y	Y	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	N	N	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with <10% wetland
8	N	N N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ	IN	IN	Water Quality Protection
1		I	Tracer squarry i recontent
	N.I.	N.I	Provides substantial storage of storm and floodwater based on provious section
2	N	N	Provides substantial storage of storm and floodwater based on previous section
2	N	Υ	Basin wetland or constricted outlet
3	N N	Y N	Basin wetland or constricted outlet Water flow through wetland is NOT channelized
3 4	N N N	Y N N	Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream
3 4 5	N N N Y	Y N N Y	Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation
3 4 5 6	N N N Y	Y N N Y	Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
3 4 5 6 7	N N N Y N	Y N N Y N	Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source
3 4 5 6 7 8	N N N Y N N	Y N N Y N N	Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water
3 4 5 6 7 8 9	N N N Y N	Y N N Y N	Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50%
3 4 5 6 7 8	N N N Y N N	Y N N Y N N	Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water
3 4 5 6 7 8 9	N N N Y N N	Y N N Y N N	Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50%
3 4 5 6 7 8 9 GW	N N N Y N N N	Y N N N N N N N N N N N	Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present
3 4 5 6 7 8 9 GW 1 2	N N N Y N N N N	Y N N Y N N N N N N N N N N	Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland
3 4 5 6 7 8 9 GW 1 2 3	N N N Y N N N N	Y N N N N N N N N N N N N N N N N N N N	Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland Wetland remains saturated for an extended time period with no additional water inputs
3 4 5 6 7 8 9 GW 1 2	N N N Y N N N N	Y N N Y N N N N N N N N N N	Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland

Wi	Idlife Habita	t and Species Observation (including amphibians and reptiles)
	st: direct ob nter, etc.	servation, tracks, scat, other sign; type of habitat: nesting, migratory,
served	Potential Y	Species/Habitat/Comments White-tailed deer
<u>Y</u> Y	Y	Songbirds
<u>'</u>	Y	Frogs
		-9-
Fis	sh and Agua	tic Life Habitat and Species Observations
Lis	st: direct of	servation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
served	Potential	Species/Habitat

Section 1 Comments (Refer to Section 1 numbers)

HU3-located nearby public roadway. ST1- small basin wetland.

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Thank Gorimanity intogrity (Gridio)							
	Low	Medium	High	Exceptional				
Invasive species cover	> 50%	20-50%	10-20%	<10%				
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented				
NHI plant community ranking	S4 🗸	S3	S2	S1-S2 (S2 high quality)				
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare				
FQI (optional)	<13	13-23	23-32	>32				
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7				

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Phalaris arundinacea			PEM	Common
Trifolium pratense			PEM	Uncommon
Juncus effusus			PEM	Uncommon
Carex annectans			PEM	Uncommon
Juncus dudleyi			PEM	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

Low floristic integrity due to prevalence of non-native species and location within a hayfield.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
	Х		L	С	Polluted runoff
					Pond construction
					Agriculture – row crops
Х	Х		M	С	Agriculture – hay
	Х		L	С	Agriculture – pasture
X	Х		L	С	Roads or railroad
	Х		L	С	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
V				0	Removal of herbaceous stratum – mowing,
X	X		M	С	grading, earthworms, etc.
V	V			0	Removal of tree or shrub strata – logging,
X	X		L	С	unprescribed fire
					Human trails – unpaved
					Human trails – paved
Х	Х		L	С	Removal of large woody debris
Х	Х		М	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):
					, ,

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

Dominated by reed canary grass and located within a cut hay field, along a road							

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity	√				
Human Use Values	√				
Wildlife Habitat	√				
Fish and Aquatic Life Habitat	√				
Shoreline Protection					1
Flood and Stormwater Storage	√				
Water Quality Protection	√				
Groundwater Processes	√				

FUNCTION	RATIONALE
Floristic Integrity	Low diversity, dominance by non-natives
Human Use Values	Within a active hay field
Wildlife Habitat	Low diversity and located along a road and in a hay field
Fish and Aquatic Life Habitat	No water present in wetland
Shoreline Protection	N/A
Flood and Stormwater Storage	Small basin wetland
Water Quality Protection	Dense vegetation
Groundwater Processes	Majority of input is from precipitation events

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	nland	Sampling Date: 2019-10-09	
Applicant/Owner: Enbridge				
Investigator(s): ARK/MAL	Section, Township	o, Range: <u>046N-004W-(</u>	06	
Landform (hillslope, terrace, etc.): Crest				
Subregion (LRR or MLRA):	at: 46.489222	Long: -90.908173	Datum: WGS84	
Soil Map Unit Name: Sanborg-Badriver co	mplex 0 to 6 percent slo	Des NWI classific	cation:	
Are climatic / hydrologic conditions on the site typica				
Are Vegetation _ ✓ _, Soil, or Hydrology	·			
Are Vegetation, Soil, or Hydrology				
SUMMARY OF FINDINGS – Attach site	map showing sampling poi	nt locations, transects	s, important features, etc.	
Hydrophytic Vegetation Present? Yes	No✓ Is the Sam			
	No ✓ within a W	etland? Yes	No <u></u>	
Wetland Hydrology Present? Yes	No✓ If yes, option	onal Wetland Site ID:	_	
Remarks: (Explain alternative procedures here or	in a separate report.)			
Upland sample recorded in a hay f	ieia.			
HYDROLOGY				
Wetland Hydrology Indicators:		Secondary Indica	ators (minimum of two required)	
Primary Indicators (minimum of one is required; che	eck all that apply)	Surface Soil	Cracks (B6)	
	_ Water-Stained Leaves (B9)	Drainage Pa	atterns (B10)	
	Aquatic Fauna (B13)	Moss Trim L		
	Marl Deposits (B15)	· · · · · · · · · · · · · · · · · · ·	Water Table (C2)	
	_ Hydrogen Sulfide Odor (C1)	Crayfish Bur		
	Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery			
1 — · · · · · — —	Presence of Reduced Iron (C4)		Stressed Plants (D1)	
	Recent Iron Reduction in Tilled SoThin Muck Surface (C7)	Is (C6) Geomorphic Position (D2) Shallow Aquitard (D3)		
	Other (Explain in Remarks)		aphic Relief (D4)	
Sparsely Vegetated Concave Surface (B8)	_ Other (Explain in Remarks)	FAC-Neutral		
Field Observations:		1710 11041141	1 1 001 (20)	
Surface Water Present? Yes No ✓	Depth (inches):			
	Depth (inches):			
	Depth (inches):	Wetland Hydrology Preser	nt? Yes No <u>√</u>	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring	g well periol photos, provious increas	tions) if available:		
Describe Recorded Data (stream gauge, monitoring	g well, aeriai priotos, previous inspec	tions), ii avaliable.		
Remarks:				
No indicators of wetland hydrology	were observed.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute		t Indicator	Dominance Test worksheet:
			Status	Number of Dominant Species
1				That Are OBL, FACW, or FAC:(A)
2				Total Number of Dominant Species Across All Strata: 2 (B)
3				
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)
5				(142)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0.0	= Total Co	over	OBL species x 1 =0
Sapling/Shrub Stratum (Plot size: 15')				FACW species 0 x 2 = 0 FAC species 0 x 3 = 0
1		-		FACU species 82.5 x 4 = 330
2				UPL species
3				Column Totals: <u>82.5</u> (A) <u>330</u> (B)
4				
5				Prevalence Index = B/A =4.00
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	0.0	= Total Co	over	2 - Dominance Test is >50%
Herb Stratum (Plot size:)				3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting
1. <u>Dactylis glomerata</u>	37.5	Y	<u>FACU</u>	data in Remarks or on a separate sheet)
2. <u>Poa pratensis</u>	15.0	Y	<u>FACU</u>	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Elymus repens</u>	10.0	N	FACU	The first one of booking and another the declaration
4. Schedonorus arundinaceus	10.0	N	<u>FACU</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <i>Trifolium pratense</i>	5.0	N	<u>FACU</u>	Definitions of Vegetation Strata:
6. <u>Taraxacum officinale</u>		N	FACU	
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8.				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
		= Total Co	over	height.
Woody Vine Stratum (Plot size: 30')				
1				
2				
3				Hydrophytic Vegetation
4				Present? Yes No✓
Remarks: (Include photo numbers here or on a separate		= Total Co	over	
Most species introduced for hay. Field	hayed a	t the tir	ne of the	e survey.

Sampling Point: wasa053_u

SOIL Sampling Point: wasa053_u

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth	Matrix		Redo Color (moist)	x Features	4	Loc ²	Tautuma	Damada	
(inches) 0-6	7.5YR 3/3	100	Color (moist)	%	Type'	LOC	Texture	Remarks	
6-18									
0-10	7.51K 4/5	100							
				· ——					
		· <u> </u>							
¹Type: C=C	concentration, D=Depl	letion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	² Location: PL=	=Pore Lining, M=Matrix.	
Hydric Soil	Indicators:						Indicators for P	Problematic Hydric Soils ³ :	
Histoso	l (A1) pipedon (A2)	•	Polyvalue Belov MLRA 149B)		(S8) (LRF	RR,		(A10) (LRR K, L, MLRA 149B) e Redox (A16) (LRR K, L, R)	
Black H	istic (A3)		Thin Dark Surfa	ice (S9) (L			5 cm Mucky	Peat or Peat (S3) (LRR K, L, R)	
	en Sulfide (A4) d Layers (A5)		Loamy Mucky N Loamy Gleyed I			, L)		e (S7) (LRR K, L) elow Surface (S8) (LRR K, L)	
	d Below Dark Surface	e (A11)	Depleted Matrix)			surface (S9) (LRR K, L)	
	ark Surface (A12)		Redox Dark Su		- 7\		_	nese Masses (F12) (LRR K, L, R)	
-	Mucky Mineral (S1) Gleyed Matrix (S4)		Depleted Dark S Redox Depress		.7)			loodplain Soils (F19) (MLRA 149B) ic (TA6) (MLRA 144A, 145, 149B)	
Sandy F	Redox (S5)	•		(/			Red Parent	Material (F21)	
	d Matrix (S6) urface (S7) (LRR R, N	ILRA 149B)				Very Shallow Dark Surface (TF12) Other (Explain in Remarks)		
	of hydrophytic vegetat		tland hydrology mus	t be prese	ent, unless	disturbed	or problematic.		
	Layer (if observed):								
Type:	iches).						Hydric Soil Pres	ent? Yes No <u>√</u>	
Remarks:	ches):						,		
	ators of hydric	soil we	re observed.						



wasa053_u_E



wasa053_u_W

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocat	ion Project	City/County: As	hland	Sampling Date: 2019-10-09
Applicant/Owner: Enbridge			State: WI	Sampling Point: wasa053e_w
Investigator(s): ARK/MAL		Section, Townshi	p, Range: <u>046N-004W-</u>	06
Landform (hillslope, terrace, etc.):				
Subregion (LRR or MLRA): Northo				
Soil Map Unit Name: Sanborg				
Are climatic / hydrologic conditions	on the site typical for this t	time of year? Yes	No (If no, explain in F	Remarks.)
Are Vegetation, Soil	_, or Hydrology sig	nificantly disturbed?	Are "Normal Circumstances"	present? Yes/ No
Are Vegetation, Soil			(If needed, explain any answe	
SUMMARY OF FINDINGS	- Attach site map s	howing sampling po	int locations, transects	s, important features, etc.
Hydrophytic Vegetation Present?	Yes <u>√</u> No	Is the Sar	npled Area	
Hydric Soil Present?	Yes <u>✓</u> No	****	Vetland? Yes <u>√</u>	No
Wetland Hydrology Present?	Yes <u></u> ✓ No	If yes, opti	ional Wetland Site ID:	
Remarks: (Explain alternative pro				
Depressional feature in	i a recently cut na	ly field.		
HYDROLOGY				
Wetland Hydrology Indicators:			Secondary Indic	ators (minimum of two required)
Primary Indicators (minimum of o	ne is required; check all that	at apply)	Surface Soil	Cracks (B6)
Surface Water (A1)		-Stained Leaves (B9)		atterns (B10)
High Water Table (A2)		ic Fauna (B13)	Moss Trim L	
Saturation (A3)		Deposits (B15)		Water Table (C2)
Water Marks (B1)		gen Sulfide Odor (C1)	Crayfish Bu	
Sediment Deposits (B2)		red Rhizospheres on Living		/isible on Aerial Imagery (C9)
Drift Deposits (B3)		nce of Reduced Iron (C4)		Stressed Plants (D1)
Algal Mat or Crust (B4) Iron Deposits (B5)		nt Iron Reduction in Tilled S Muck Surface (C7)	Shallow Aqu	
Inundation Visible on Aerial I		(Explain in Remarks)		aphic Relief (D4)
Sparsely Vegetated Concave		(Explain in Nomarks)	Microtopogr	
Field Observations:	- Curiado (BO)		<u> </u>	1 1001 (20)
	es No √ Dept	h (inches):		
		h (inches):		
		h (inches):		nt? Yes <u>√</u> No
(includes capillary fringe)				
Describe Recorded Data (stream	gauge, monitoring well, ae	erial photos, previous inspe	ctions), if available:	
Remarks:				
Seasonally saturated r	echarge wetland v	with water-stained	leaves present.	

VEGETATION – Use scientific names of plants.

'EGETATION – Use scientific names of plants.				Sampling Point: wasa053e_v
Tree Stratum (Plot size:30')	Absolute % Cover			Dominance Test worksheet:
1		•		Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata: (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 66.67 (A/B)
6	<u> </u>			Prevalence Index worksheet:
7				Total % Cover of:Multiply by:
	0.0_=	= Total Co	ver	OBL species <u>25</u> x 1 = <u>25</u>
Sapling/Shrub Stratum (Plot size:)				FACW species
1				FACU species x 3 = B
2				UPL species 0 x 5 = 0
3				Column Totals: <u>97</u> (A) <u>231</u> (B)
4				Prevalence Index = B/A = 2.38
5				
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
	0.0_ =	= Total Co	ver	\checkmark 3 - Prevalence Index is $\le 3.0^1$
Herb Stratum (Plot size: <u>5'</u>) 1. <i>Phalaris arundinacea</i>	35.0	Y	FACW	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. <u>Trifolium pratense</u>		Y	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Juncus effusus</u>			OBL	
4. <u>Schedonorus arundinaceus</u>		N	FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <u>Poa pratensis</u>		N	FACU	
6. <u>Scirpus cyperinus</u>		N	OBL	Definitions of Vegetation Strata:
7. <u>Carex cf. scoparia</u>		N	FACW	Tree – Woody plants 3 in. (7.6 cm) or more in diamete at breast height (DBH), regardless of height.
8. Juncus tenuis		N	FAC	Sapling/shrub – Woody plants less than 3 in. DBH
9.				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	97	= Total Co	ver	height.
Woody Vine Stratum (Plot size: 30')				
1				
2				
3				Hydrophytic
4				Vegetation Present? Yes / No
	0.0	= Total Co	ver	105 <u>v</u> 110 <u></u>
Remarks: (Include photo numbers here or on a separate see The vegetation is recently cut in an actise species.	= = sheet.)	= Total Co	ver	Vegetation Present? Yes✓ No

SOIL Sampling Point: wasa053e_w

Profile Desc	cription: (Describe t	o the dep	oth needed	to docun	nent the in	ndicator	or confirm	the absence	of indicators.)	
Depth (inches)	Matrix Color (moist)	%	Color (n		K Features	Type ¹	_Loc ²	Texture	Remarks	
0-6	10YR 2/1	85	7.5YR	5/8	15	С	_M_	С	Prominent redox	
6-12	10YR 4/1	_70	5YR	5/8	20	С	_M_	С	Prominent redox	
6-12			10YR	2/1	10	С	М	С		
	10YR 4/1	40	5YR		60	С	M	С	Prominent redox	
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Hydric Soil Indicators: Histosol (A1) Histosol (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Stratified Layers (A5) Depleted Below Dark Surface (A11) Depleted Matrix (F2) Thin Dark Surface (A12) A Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (S1) Depleted Dark Surface (A12) A Redox Dark Surface (F7) Depleted Dark Surface (S1) Depleted Dark Surface (A12) Depleted Dark Surface (F7) Depleted Dark Surface (S1) Depleted Dark Surface (F1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 149B)										
Sandy C Sandy F Stripped	Gleyed Matrix (S4) Redox (S5) d Matrix (S6)		Redox Depressions (F8)					Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21) Very Shallow Dark Surface (TF12)		
	urface (S7) (LRR R, M								(Explain in Remarks)	
	of hydrophytic vegetatic Layer (if observed):	ion and w	etland hydro	logy mus	t be prese	nt, unless	s disturbed o	or problemation	C.	
Type:										
Depth (in	ches):							Hydric Soil	Present? Yes ✓ No	
Remarks: Clay with	n redox throug	hout th	ne profile							



wasa053e w N



wasa053e_w_S

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION		
Project name: Line 5 Relocation Project	Evaluator(s): NTT/DGL	
File #: wasa053	Date of visit(s): 09/10/2019	
Location: PLSS: 046N-004W-06	Ecological Landsca Superior Coastal Plain	ape:
Lat: 46.48881974 Long: -90.90861022	Watershed: LS10 White River	
County: Ashland Town/City/Village: White River town		
SITE DESCRIPTION		
Soils: Mapped Type(s):	WWI Class:	
580B, Sanborg-Badriver complex, 0 to 6 percent slopes Field Verified:	Wetland Type(s): PEM- Fresh wet	meadow
Series not verified. The soils consist of a clay texture.	Wetland Size: 0.06	Wetland Area Impacted 0.06
Hydrology: Seasonally saturated based on FAC-Neutral test and geomorphic position.	Vegetation: Plant Community E Wet meadow in hayfield.	Description(s): a depression in a recently cut

SITE MAP	

SECTION 1: Functional Value Assessment

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
	- ' '	- 11	In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	IN	111	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	Y	Y	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5			
-	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	Υ	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present > 45 days
10	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	NA	NA	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	NA	NA	water levels or high flows – if no, not applicable
3	NA	NA	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	N	N	Water flow through wetland is NOT channelized
3	Y	Y	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	N	N	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7			Within a watershed with <10% wetland
8	N	N N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ	N	N	Water Quality Protection
	N 1	N 1	
1	N	N	Provides substantial storage of storm and floodwater based on previous section
2	N	N	Basin wetland or constricted outlet Water flow through wetland is NOT channelized
3	N	N	r vvaler now infough weilang is NCT Channelized
4			
	N	N	Vegetated wetland associated with a lake or stream
5	N Y	N Y	Vegetated wetland associated with a lake or stream Dense, persistent vegetation
5 6	N Y N	N Y N	Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
5 6 7	N Y N	N Y N N	Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source
5 6 7 8	N Y N N	N Y N N	Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water
5 6 7 8 9	N Y N	N Y N N	Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50%
5 6 7 8	N Y N N	N Y N N	Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water
5 6 7 8 9	N Y N N	N Y N N	Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50%
5 6 7 8 9 GW	N Y N N N	N Y N N N	Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present
5 6 7 8 9 GW 1 2	N Y N N N N	N Y N N N N	Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland
5 6 7 8 9 GW 1 2 3	N Y N N N N	N Y N N N N	Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland Wetland remains saturated for an extended time period with no additional water inputs
5 6 7 8 9 GW 1 2	N Y N N N N	N Y N N N N	Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland

Lis		nt and Species Observation (including amphibians and reptiles) servation, tracks, scat, other sign; type of habitat: nesting, migratory,
Observed	Potential	Species/Habitat/Comments
Obscived	Y	White-tailed deer
Υ	Y	Songbirds
· · · · · · · · · · · · · · · · · · ·	Y	Frogs
		ntic Life Habitat and Species Observations eservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observed	Potential	Species/Habitat

Section 1 Comments (Refer to Section 1 numbers)

ST1- small basin wetland located on a small access road.

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Phalaris arundinacea			PEM	Common
Trifolium pratense			PEM	Common
Juncus effusus			PEM	Common
Schedonorus arundinaceum			PEM	Uncommon
Poa pratensis			PEM	Uncommon
Scirpus cyperinus			PEM	Uncommon
Carex scoparia			PEM	Uncommon
Juncus tenuis			PEM	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

Low floristic integirty dominated by non-native species and located within a hay field.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
Х	Х		M	С	Agriculture – hay
	Х		L	С	Agriculture – pasture
Х	Х		L	С	Roads or railroad
	Х		L	С	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
	.,				Removal of herbaceous stratum – mowing,
X	X		M	С	grading, earthworms, etc.
	V			0	Removal of tree or shrub strata – logging,
	X		L	С	unprescribed fire
					Human trails – unpaved
					Human trails – paved
	Х		L	С	Removal of large woody debris
Х	Х		М	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):
					,

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

Dominated by reed canary grass and located within a cut hay field.

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity	√				
Human Use Values	√				
Wildlife Habitat	√				
Fish and Aquatic Life Habitat	√				
Shoreline Protection					1
Flood and Stormwater Storage	√				
Water Quality Protection	√				
Groundwater Processes	√				

FUNCTION	RATIONALE	
Floristic Integrity	Low diversity, dominated by non-natives	
Human Use Values	Within a active hay field	
Wildlife Habitat	Low diversity, located in a hay field	
Fish and Aquatic Life Habitat	No water present in wetland	
Shoreline Protection	N/A	
Flood and Stormwater Storage	Small basin wetland	
Water Quality Protection	Dense vegetation	
Groundwater Processes	Majority of input is from precipitation events	

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

Project/Site: Line 5 Relocation Project	City/County: Ash	nland	Sampling Date: 2019-10-09
Applicant/Owner: Enbridge			
Investigator(s): ARK/MAL	Section, Township	o, Range: <u>046N-004W-(</u>	06
Landform (hillslope, terrace, etc.): Crest			
Subregion (LRR or MLRA):	at: 46.489222	Long: -90.908173	Datum: WGS84
Soil Map Unit Name: Sanborg-Badriver co	mplex 0 to 6 percent slo	Des NWI classific	cation:
Are climatic / hydrologic conditions on the site typica			
Are Vegetation _ ✓ _, Soil, or Hydrology	·		
Are Vegetation, Soil, or Hydrology			
SUMMARY OF FINDINGS – Attach site	map showing sampling poi	nt locations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes	No✓ Is the Sam		
	No ✓ within a W	etland? Yes	No <u></u>
Wetland Hydrology Present? Yes	No✓ If yes, option	onal Wetland Site ID:	
Remarks: (Explain alternative procedures here or	in a separate report.)		
Upland sample recorded in a hay f	ieia.		
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indica	ators (minimum of two required)
Primary Indicators (minimum of one is required; che	eck all that apply)	Surface Soil	Cracks (B6)
	_ Water-Stained Leaves (B9)	Drainage Pa	atterns (B10)
	Aquatic Fauna (B13)	Moss Trim L	
	Marl Deposits (B15)	· · · · · · · · · · · · · · · · · · ·	Water Table (C2)
	_ Hydrogen Sulfide Odor (C1)	Crayfish Bur	
	_ Oxidized Rhizospheres on Living		fisible on Aerial Imagery (C9)
1 — · · · · · — —	Presence of Reduced Iron (C4)		Stressed Plants (D1)
	Recent Iron Reduction in Tilled SoThin Muck Surface (C7)	Shallow Aqu	Position (D2)
	Other (Explain in Remarks)		aphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	_ Other (Explain in Remarks)	FAC-Neutral	
Field Observations:		1710 11041141	1 1 001 (20)
Surface Water Present? Yes No ✓	Depth (inches):		
	Depth (inches):		
	Depth (inches):	Wetland Hydrology Preser	nt? Yes No <u>√</u>
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring	g well periol photos, provious increas	tions) if available:	
Describe Recorded Data (stream gauge, monitoring	g well, aeriai priotos, previous inspec	tions), ii avaliable.	
Remarks:			
No indicators of wetland hydrology	were observed.		

Tree Stratum (Plot size:)	Absolute		t Indicator	Dominance Test worksheet:
			Status	Number of Dominant Species
1				That Are OBL, FACW, or FAC:(A)
2				Total Number of Dominant Species Across All Strata: 2 (B)
3				
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)
5				(142)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0.0	= Total Co	over	OBL species x 1 =0
Sapling/Shrub Stratum (Plot size: 15')				FACW species 0 x 2 = 0 FAC species 0 x 3 = 0
1		-		FACU species 82.5 x 4 = 330
2				UPL species
3				Column Totals: <u>82.5</u> (A) <u>330</u> (B)
4				
5				Prevalence Index = B/A =4.00
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	0.0	= Total Co	over	2 - Dominance Test is >50%
Herb Stratum (Plot size:)				3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting
1. <u>Dactylis glomerata</u>	37.5	Y	<u>FACU</u>	data in Remarks or on a separate sheet)
2. <u>Poa pratensis</u>	15.0	Y	<u>FACU</u>	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Elymus repens</u>	10.0	N	<u>FACU</u>	The first one of booking and another the declaration
4. Schedonorus arundinaceus	10.0	N	<u>FACU</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <i>Trifolium pratense</i>	5.0	N	FACU	Definitions of Vegetation Strata:
6. <u>Taraxacum officinale</u>		N	FACU	
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8.				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
		= Total Co	over	height.
Woody Vine Stratum (Plot size: 30')				
1				
2				
3				Hydrophytic Vegetation
4				Present? Yes No✓
Remarks: (Include photo numbers here or on a separate		= Total Co	over	
Most species introduced for hay. Field	hayed a	t the tir	ne of the	e survey.

Sampling Point: wasa053_u

SOIL Sampling Point: wasa053_u

Profile Des	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of in	dicators.)
Depth	Matrix		Redo Color (moist)	x Features	4	Loc ²	Tautuma	Damada
(inches) 0-6	7.5YR 3/3	100	Color (moist)	%	Type'	LOC	Texture	Remarks
6-18								
0-10	7.51K 4/5	100						
				· ——				
		· <u> </u>						
¹Type: C=C	concentration, D=Depl	letion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	² Location: PL=	=Pore Lining, M=Matrix.
Hydric Soil	Indicators:						Indicators for P	Problematic Hydric Soils ³ :
Histoso	l (A1) pipedon (A2)	•	Polyvalue Belov MLRA 149B)		(S8) (LRF	RR,		(A10) (LRR K, L, MLRA 149B) e Redox (A16) (LRR K, L, R)
Black H	istic (A3)		Thin Dark Surfa	ice (S9) (L			5 cm Mucky	Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4) d Layers (A5)		Loamy Mucky N Loamy Gleyed I			, L)		e (S7) (LRR K, L) elow Surface (S8) (LRR K, L)
	d Below Dark Surface	e (A11)	Depleted Matrix)			surface (S9) (LRR K, L)
	ark Surface (A12)		Redox Dark Su		- 7\		_	nese Masses (F12) (LRR K, L, R)
-	Mucky Mineral (S1) Gleyed Matrix (S4)		Depleted Dark S Redox Depress		.7)			loodplain Soils (F19) (MLRA 149B) ic (TA6) (MLRA 144A, 145, 149B)
Sandy F	Redox (S5)	•		(/			Red Parent	Material (F21)
	d Matrix (S6) urface (S7) (LRR R, N	ILRA 149B)					w Dark Surface (TF12) ain in Remarks)
	of hydrophytic vegetat		tland hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
	Layer (if observed):							
Type:	iches).						Hydric Soil Pres	ent? Yes No <u>√</u>
Remarks:	ches):						,	
	ators of hydric	soil we	re observed.					



wasa053_u_E



wasa053_u_W

Project/Site: Line 5 Relocation Project	City/County: Ashland Sampling Date: 2019-10-11
•	State: WI Sampling Point: wasa136e_w
_	Section, Township, Range: 046N-004W-05
	ocal relief (concave, convex, none): Concave Slope (%): 0-2%
	S9 Long: <u>-90.901015</u> Datum: <u>WGS84</u>
	6 percent slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of y	
	y disturbed? Are "Normal Circumstances" present? Yes No _ ✓
Are Vegetation, Soil, or Hydrology naturally p	
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes ✓ No	Is the Sampled Area
Hydric Soil Present? Yes ✓ No	141 144 16 17 (11
Wetland Hydrology Present? Yes✓ No	
Remarks: (Explain alternative procedures here or in a separate rep	
,	ated in a planted corn field. Swale-like depression
continues outside of the survey corridor.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
✓ Surface Water (A1) Water-Stained	Leaves (B9) Drainage Patterns (B10)
✓ High Water Table (A2) — Aquatic Fauna	
Marl Deposits	
Water Marks (B1) Hydrogen Suli	
	ospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Presence of R	
<u> </u>	eduction in Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck Su	
Inundation Visible on Aerial Imagery (B7) Other (Explain	
Sparsely Vegetated Concave Surface (B8) Field Observations:	FAC-Neutral Test (D5)
Surface Water Present? Yes _ ✓ No Depth (inches	s)· A
Water Table Present? Yes ✓ No Depth (inches	
Saturation Present? Yes No Depth (inches	
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial pho	tos, previous inspections), if available:
Remarks:	
Standing water present at lowest point.	

Trace Observery (Platesiness 20)	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:30')	% Cover Species? Status	Number of Dominant Species
1		That Are OBL, FACW, or FAC:(A)
2		Total Number of Dominant
3		Species Across All Strata: 0.0 (B)
4		Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)
5		That Are OBL, FACW, or FAC:(A/B)
6		Prevalence Index worksheet:
7		Total % Cover of: Multiply by:
	= Total Cover	OBL species x 1 =0.0
Sapling/Shrub Stratum (Plot size:)		FACW species x 2 =0.0
1		FAC species x 3 = 0.0
2		FACU species <u>0.0</u> x 4 = <u>0.0</u>
3		UPL species 0.0 $x = 0.0$ (B)
4		Column Totals. <u>0.0</u> (A) <u>0.0</u> (B)
5		Prevalence Index = B/A =
6		Hydrophytic Vegetation Indicators:
7		1 - Rapid Test for Hydrophytic Vegetation
	= Total Cover	2 - Dominance Test is >50%
Herb Stratum (Plot size:5')		3 - Prevalence Index is ≤3.0¹
1		4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2		✓ Problematic Hydrophytic Vegetation¹ (Explain)
3		4
4.		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5		Definitions of Vegetation Strata:
6		Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7		at breast height (DBH), regardless of height.
8		Sapling/shrub – Woody plants less than 3 in. DBH
9		and greater than or equal to 3.28 ft (1 m) tall.
10		Herb – All herbaceous (non-woody) plants, regardless
11		of size, and woody plants less than 3.28 ft tall.
12		Woody vines – All woody vines greater than 3.28 ft in
	0.0 = Total Cover	height.
Woody Vine Stratum (Plot size: 30')		
1		
2		
3		Hydrophytic
4		Vegetation
T	0.0 = Total Cover	Present? Yes
Remarks: (Include photo numbers here or on a separate		
No vegetation present throughout wetla	and due to tillage and h	erbicide application.

Sampling Point: wasa136e_w

SOIL Sampling Point: wasa136e_w

Profile Des	cription: (D	escribe t	to the dep	th needed	to docun	nent the i	ndicator	or confirm	the absence	e of indicators.)	
Depth		Matrix				x Features	1	. 2			
(inches) 0-6	Color (n		90	7.5YR	-	<u>%</u> 10	Type'	Loc ²	SICL	Remarks	
6-12	5YR	4/3	90	10YR		10	<u> </u>	M	C	Prominent redox	
	7.5YR			1011	 /	10	<u> </u>	IVI		1 TOTTILLETIC TEGOX	
12-10	<u>7.511X</u>	<u> </u>	100								
						. ——					
	-										
				•							
				•							
				-							
	-										
1									2		
Type: C=C Hydric Soil	oncentration Indicators:	, D=Depl	etion, RM	=Reduced M	latrix, MS	S=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils ³ :	
Histoso	I (A1)					w Surface	(S8) (LR I	RR,	2 cm l	Muck (A10) (LRR K, L, MLRA 149B)	
	Histic Epipedon (A2)Black Histic (A3)				RA 149B) ark Surfa		RRR M	LRA 149B)		Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R)	
Hydrogen Sulfide (A4)			Loamy	Mucky N	/lineral (F1) (LRR K		Dark S	Surface (S7) (LRR K, L)		
	Stratified Layers (A5)			Loamy Gleyed Matrix (F2)					Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L)		
-	Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6)					Iron-Manganese Masses (F12) (LRR K, L, R)					
-	Mucky Miner					Surface (F	7)		Piedmont Floodplain Soils (F19) (MLRA 149B)		
-	Gleyed Matri: Redox (S5)	x (54)		Redox	Depress	ions (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21)		
	d Matrix (S6)			_,					Very Shallow Dark Surface (TF12)		
Dark St	ırface (S7) (I	-RR R, IV	ILRA 1491	3)					Otner	(Explain in Remarks)	
³ Indicators of Restrictive		_	ion and w	etland hydro	logy mus	t be prese	ent, unles	s disturbed	or problemati	C.	
Type:	Layer (II Ob	sei veu).									
Depth (in	iches):								Hydric Soi	I Present? Yes No	
Remarks:									I		
Reddish	ciay soil	is with	redox	aepielio	ns pre	esent.					



wasa136e_w_N



wasa136e_w_S

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION					
Project name:	Evaluator(s):				
Line 5 Relocation Project	NTT/OTG				
File #:	Date of visit(s):				
wasa136	10/11/2019				
Location:	Ecological Landsca	ipe:			
PLSS: <u>046N-004W-05</u>	Cupariar Caastal Dlain				
	Superior Coastal Plain				
Lat: <u>46.488793</u> Long: <u>-90.900938</u>	Watershed:				
	LS10 White River				
County: Ashland Town/City/Village: White River town					
SITE DESCRIPTION					
Soils:	WWI Class:				
Mapped Type(s):	N/A				
580B, Sanborg-Badriver complex, 0 to 6 percent slopes	Wetland Type(s):				
	PEM- Seasonally flooded basin				
Field Verified:		,			
The soil series was not verified. The soils consist	Wetland Size:	Wetland Area Impacted			
of a silty clay loam over a clay.	0.05	0.05			
	Vegetation:				
	Plant Community D	escription(s):			
Hydrology:	,	easonally flooded basin located in			
The wetland is temporarily flooded and there are		I with no vegetation present.			
pools of standing water throughout.		ion meanders through the corn			
pools of standing water throughout.	field outside of the	3			
	neid Odiside of the	Survey Comuci.			

 SITE MAP	

SECTION 1: Functional Value Assessment

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Ν	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
	- ' '	- 11	In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	IN	111	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4			100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	N	N	
-	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	N	N	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present > 45 days
10	Υ	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	Υ	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	Υ	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	NA	NA	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	NA	NA	water levels or high flows – if no, not applicable
3	NA	NA	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Y	Y	Water flow through wetland is NOT channelized
3	N	N	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	Y	Y	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7			Within a watershed with <10% wetland
8	N N	N N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ	IN	IN	Water Quality Protection
	N.I	N.I	Provides substantial storage of storm and floodwater based on previous section
1	N	N	
2	Y	Y	Basin wetland or constricted outlet
3	Y	Y	Water flow through wetland is NOT channelized
4	N	N	Vegetated wetland associated with a lake or stream
5	N	N	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	Υ	Υ	Natural land cover in 100m buffer area < 50%
GW	<u></u>		Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
_	N	N	Location near a groundwater divide or a headwater wetland
3		Y	Wetland remains saturated for an extended time period with no additional water inputs
3	Υ	Y	Wetland remains saturated for an extended time period with no additional water inputs Wetland soils are organic
		Y N N	Wetland remains saturated for an extended time period with no additional water inputs Wetland soils are organic Wetland is within a wellhead protection area

Wi	Idlife Habita	at and Species Observation (including amphibians and reptiles) servation, tracks, scat, other sign; type of habitat: nesting, migratory,
	nter, etc.	servation, tracks, scat, other sign, type of habitat. hesting, migratory,
Observed	Potential	
Y	Y	Songbirds
Lis	sn and Aqua st: direct ob	atic Life Habitat and Species Observations oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observed	Potential	Species/Habitat
	Υ	Frogs
	<u> </u>	<u>I</u>

Section 1 Comments (Refer to Section 1 numbers)

HU3: located along a farm access road within a harvested corn field. WQ2: Basin wetland.

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species	> 50%	20-50%	10-20%	<10%
cover				
Strata	Missing stratum(a)√		All strata present	All strata present,
	or bare due to	present but	and good	conservative species
	invasive species	reduced native	assemblage of	represented
		species	native species	
NHI plant community	S4	S3 🗌	S2	S1-S2 (S2 high quality)
ranking				
Relative frequency of	Abundant 🗸	Common	Uncommon	Rare
plant community in	_	_	_	_
watershed				
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

	Comments (Estimate of % Cover, Abundance)

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

Currently no vegetation present area has stunted corn throughout.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
Х	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
X	Х		Н	С	Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing,
					grading, earthworms, etc.
V	V		N 4	0	Removal of tree or shrub strata – logging,
X	X		M	С	unprescribed fire
	Х		L	С	Human trails – unpaved
					Human trails – paved
	Х		L	С	Removal of large woody debris
X	Х		L	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):
					,

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The wetland is located within a planted corn field. Drainage tiles throughout field.							

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity	√				
Human Use Values		✓			
Wildlife Habitat	√				
Fish and Aquatic Life Habitat	√				
Shoreline Protection					√
Flood and Stormwater Storage	√				
Water Quality Protection	√				
Groundwater Processes	√				

FUNCTION	RATIONALE
Floristic Integrity	No vegetation present
Human Use Values	Located within a actively farmed corn field
Wildlife Habitat	No vegetation for cover present
Fish and Aquatic Life Habitat	Small pools of water throughout
Shoreline Protection	N/A
Flood and Stormwater Storage	Basin wetland holds water due to compacted clay soils
Water Quality Protection	Water present throughout spring and after heavy rainfall events
Groundwater Processes	Recharge wetland receives most input from rainfall events

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

Project/Site: Line 5 Relocation Project	City/County: As	nland	Sampling Date: 2019-10-11		
•					
Investigator(s): NTT/OTG					
Landform (hillslope, terrace, etc.): Talf					
Subregion (LRR or MLRA): Northcentral Forests					
Soil Map Unit Name: Sanborg-Badriver of					
Are climatic / hydrologic conditions on the site typic	· · · ·	•			
Are Vegetation _ ✓ , Soil _ ✓ , or Hydrology					
Are Vegetation, Soil, or Hydrology					
SUMMARY OF FINDINGS – Attach sit	e map showing sampling poi	nt locations, transects	s, important features, etc.		
Hydrophytic Vegetation Present? Yes	No ✓ Is the Sam	pled Area			
	No ✓ within a W	etland? Yes	No <u></u>		
		onal Wetland Site ID:			
Remarks: (Explain alternative procedures here of		the end of the continue			
Sample recorded in a corn field,	crop still up at the time of t	ne delineation.			
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary Indica	ators (minimum of two required)		
Primary Indicators (minimum of one is required; of	check all that apply)	Surface Soil	Cracks (B6)		
Surface Water (A1)	Water-Stained Leaves (B9)				
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)			
Saturation (A3)	Marl Deposits (B15)	Dry-Season Water Table (C2)			
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)			
Sediment Deposits (B2)	Oxidized Rhizospheres on Living				
Drift Deposits (B3)	Presence of Reduced Iron (C4)	· · · · · · · · · · · · · · · · · · ·			
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled So				
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aqu			
	Other (Explain in Remarks)	· -	aphic Relief (D4)		
Sparsely Vegetated Concave Surface (B8)		FAC-Neutra	Test (D5)		
Field Observations:	(Donth (inches):				
	✓ Depth (inches):				
	✓ Depth (inches):	Wetland Hydrology Prese	nt? Yes No √		
(includes capillary fringe)			iit: 165 140		
Describe Recorded Data (stream gauge, monitor	ing well, aerial photos, previous inspec	tions), if available:			
Remarks:					
No wetland hydrology indicators	were observed.				

Tree Obstance (Distrained 20)	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:30')	% Cover Species? Status	Number of Dominant Species
1		That Are OBL, FACW, or FAC:(A)
2		Total Number of Dominant Species Across All Strata: 1 (B)
3		Species Across All Strata:1 (B)
4		Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)
5		That Are OBE, I ACW, OF I AC. (AVB)
6		Prevalence Index worksheet:
7		Total % Cover of: Multiply by:
	= Total Cover	OBL species0 x 1 =0
Sapling/Shrub Stratum (Plot size:)		FACW species0 x 2 =0
1		FACULTURE O
2		FACU species0 x 4 =0 UPL species0 x 5 =0
3		Column Totals: 0 (A) 0 (B)
4		Column Totals (N) (D)
5		Prevalence Index = B/A =
6		Hydrophytic Vegetation Indicators:
7		1 - Rapid Test for Hydrophytic Vegetation
	0.0 = Total Cover	2 - Dominance Test is >50%
Herb Stratum (Plot size:5')		3 - Prevalence Index is ≤3.0 ¹
1. Zea mays		4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2.		Problematic Hydrophytic Vegetation ¹ (Explain)
3		1
4		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5		Definitions of Vegetation Strata:
6		_
7		Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8		Sapling/shrub – Woody plants less than 3 in. DBH
9		and greater than or equal to 3.28 ft (1 m) tall.
10		Herb – All herbaceous (non-woody) plants, regardless
11.		of size, and woody plants less than 3.28 ft tall.
12.		Woody vines – All woody vines greater than 3.28 ft in
	50 = Total Cover	height.
Woody Vine Stratum (Plot size:30')		
1		
2		
3		Hydrophytic Vegetation
4		Present? Yes No <u>√</u>
Remarks: (Include photo numbers here or on a separate	= Total Cover	
Row crop agriculture. Planted in corn.	Sileet.)	

Sampling Point: wasa136_u

SOIL Sampling Point: wasa136_u

Profile Desc	cription: (Describe	to the dep	th needed to docur	nent the i	ndicator	or confirm	the absence of ir	ndicators.)
Depth (inches)	Matrix Color (moist)	<u></u> %	Redo Color (moist)	x Feature: %	s Type ¹	Loc ²	Texture	Remarks
(inches)	7.5YR 3/3	100	Color (Illoist)	70	туре	LUC	CI	Remarks
		100						
0-10	<u> </u>	100		·				
				· - 				
				<u> </u>				
				-				
		pletion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.		=Pore Lining, M=Matrix.
Hydric Soil			Dahasaksa Dalas	0	(CO) /I DI			Problematic Hydric Soils ³ :
Histosol Histic E	pipedon (A2)		Polyvalue Below MLRA 149B)		(58) (LRI	κκ,		(A10) (LRR K, L, MLRA 149B) rie Redox (A16) (LRR K, L, R)
Black H	istic (A3)		Thin Dark Surfa					y Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4) d Layers (A5)		Loamy Mucky N Loamy Gleyed			, L)		ce (S7) (LRR K, L) Below Surface (S8) (LRR K, L)
Deplete	d Below Dark Surface	ce (A11)	Depleted Matrix	(F3)			Thin Dark S	Surface (S9) (LRR K, L)
	ark Surface (A12) Mucky Mineral (S1)		Redox Dark Su Depleted Dark \$					anese Masses (F12) (LRR K, L, R) Floodplain Soils (F19) (MLRA 149B)
-	Gleyed Matrix (S4)		Redox Depress		')			dic (TA6) (MLRA 144A, 145, 149B)
-	Redox (S5)							t Material (F21)
	d Matrix (S6) Irface (S7) (LRR R,	MLRA 149B	3)					ow Dark Surface (TF12) lain in Remarks)
			tland hydrology mus	st be prese	ent, unless	s disturbed	or problematic.	
	Layer (if observed)):						
Type:	ches):						Hydric Soil Pres	sent? Yes No _✓_
Remarks:	ches):						1 -	
No hydri	c soil indicate	rs were	observed.					



wasa136_u_S



wasa136_u_W

Project/Site: Line 5 Reloca	ation Project	City/C	county: Ashland	;	Sampling Date: <u>2019-10-17</u>
Applicant/Owner: Enbridge	•				
Investigator(s): ARK/NTT					
Landform (hillslope, terrace, etc.					
					Datum: WGS84
					tion:
Are climatic / hydrologic conditio		·	•		
					esent? Yes <u>√</u> No
Are Vegetation, Soil					
SUMMARY OF FINDINGS	S – Attach sit	e map showing sam	ipling point location	ons, transects,	important features, etc.
Hydrophytic Vegetation Preser	nt? Yes	✓ No	Is the Sampled Area		
Hydric Soil Present?		✓ No	within a Wetland?	Yes <u>√</u>	
Wetland Hydrology Present?		✓ No	If yes, optional Wetland	d Site ID:	
Remarks: (Explain alternative Emergent componen			ated with an inte	ermittent stres	om A huilt-un farm
access road with a cu		•			ini. 71 bant ap iann
access road with a co	aiveit is pres	ochi along the eas	derii side oi tile	welland.	
HYDROLOGY					
Wetland Hydrology Indicator				Secondary Indicate	ors (minimum of two required)
Primary Indicators (minimum o				Surface Soil C	
Surface Water (A1)		Water-Stained Leave		✓ Drainage Patte	
High Water Table (A2)		Aquatic Fauna (B13)		Moss Trim Lin	
Saturation (A3)		Marl Deposits (B15)	or (C4)	Dry-Season W	
Water Marks (B1)		Hydrogen Sulfide OdeOxidized Rhizosphere		Crayfish Burro	ible on Aerial Imagery (C9)
Sediment Deposits (B2) Drift Deposits (B3)		Presence of Reduced		Saturation vis	=
Algal Mat or Crust (B4)		Recent Iron Reductio	, ,	✓ Geomorphic P	
Iron Deposits (B5)		Thin Muck Surface (C		Shallow Aquita	
Inundation Visible on Aeria		Other (Explain in Ren	•	Microtopograp	
Sparsely Vegetated Conca	• • • •	Other (Explain in Non	namo)	✓ FAC-Neutral T	
Field Observations:					
Surface Water Present?	Yes No _	✓ Depth (inches):			
Water Table Present?		✓ Depth (inches):			
Saturation Present?		✓ Depth (inches):		Hydrology Present	? Yes <u>√</u> No
(includes capillary fringe) Describe Recorded Data (streat	m sausa manitar	ing well porial photos pro	vieus inapactions) if au	ailahla.	
Describe Recorded Data (streat	am gauge, monitori	ing well, aerial photos, pre	vious inspections), if ava	allable:	
Remarks:					
Located along a stream	am.				

				Sampling Point: wasa055e_w
Tree Stratum (Plot size:30')			t Indicator Status	Dominance Test worksheet:
1				Number of Dominant Species That Are OBL, FACW, or FAC:3(A)
2				Total Number of Dominant
3				Species Across All Strata:3(B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0.0	= Total Co	over	OBL species10 x 1 =10
Sapling/Shrub Stratum (Plot size: 15')				FACW species <u>25</u> x 2 = <u>50</u>
1				FAC species x 3 = 60 FACU species 5 x 4 = 20
2				UPL species x 5 =
3				Column Totals: 60 (A) 140 (B)
4				
5				Prevalence Index = B/A = 2.33
6		-		Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation2 - Dominance Test is >50%
	0.0	= Total Co	over	✓ 3 - Prevalence Index is ≤3.0 ¹
Herb Stratum (Plot size: <u>5'</u>) 1. <i>Phalaris arundinacea</i>	25	V	FACW	4 - Morphological Adaptations ¹ (Provide supporting
1. <u>Pridians arunumacea</u> 2. <u>Rumex crispus</u>			FAC	data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation ¹ (Explain)
z. <u>Ranunculus hispidus</u> 3. <u>Ranunculus hispidus</u>			FAC	residentation tyurophytic vogotation (Explain)
4. <u>Eutrochium maculatum</u>		N	OBL	¹ Indicators of hydric soil and wetland hydrology must
5. <u>Cirsium arvense</u>		N	FACU	be present, unless disturbed or problematic.
6. <u>Persicaria sagittata</u>			OBL	Definitions of Vegetation Strata:
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8.				
9.				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	60	= Total Co	over	height.
Woody Vine Stratum (Plot size:)				
1				
2				
				Hydrophytic
3				Vegetation
3				Present? Yes _ ✓ No

SOIL Sampling Point: wasa055e_w1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)			
Depth Matrix Redox Features			
	marks		
0-9 10YR 3/3 100 S			
9-18 7.5YR 3/3 90 7.5YR 5/6 10 C M SC Distinct re	dox		
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ² Location: PL=Pore Lining,			
Hydric Soil Indicators: Indicators for Problematic I	-		
Histosol (A1) Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRR R) Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A10	-		
Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) 5 cm Mucky Peat or Pea	(S3) (LRR K, L, R)		
Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L) Dark Surface (S7) (LRR Stratified Layers (A5) Loamy Gleyed Matrix (F2) Polyvalue Below Surface			
	Thin Dark Surface (S9) (LRR K, L)		
	Iron-Manganese Masses (F12) (LRR K, L, R)		
	Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
	✓ Red Parent Material (F21)		
	Very Shallow Dark Surface (TF12) Other (Explain in Remarks)		
Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remark	.S)		
³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.			
Restrictive Layer (if observed):			
Type: Depth (inches): Hydric Soil Present? Yes.	./ No		
Depth (inches): Hydric Soil Present? Yes Remarks:			
Sand over sandy clay with redox.			



wasa055e_w1_E



wasa055e_w1_W

Project/Site: Line 5 Relocation Project City/0	County: Ashland Sampling Date: 2019-10-09			
Applicant/Owner: Enbridge	State: WI Sampling Point: wasa055e_w2			
Investigator(s): ARK/MAL Section	ion, Township, Range: 046N-004W-06			
Landform (hillslope, terrace, etc.): Floodplain Local re	elief (concave, convex, none): Concave Slope (%): 0-2%			
	Long: <u>-90.909323</u> Datum: WGS84			
Soil Map Unit Name: Odanah silt loam, 15 to 25 percent s				
Are climatic / hydrologic conditions on the site typical for this time of year?	•			
	urbed? Are "Normal Circumstances" present? Yes ✓ No			
Are Vegetation, Soil, or Hydrology naturally problem				
SUMMARY OF FINDINGS – Attach site map snowing sar	npling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? Yes No	Is the Sampled Area			
Hydric Soil Present? Yes ✓ No	within a Wetland? Yes No			
Wetland Hydrology Present? Yes No	If yes, optional Wetland Site ID:			
Remarks: (Explain alternative procedures here or in a separate report.) Wet meadow community next to a farm access roa	ad Part of a larger complex which includes			
hardwood swamp. Feature associated with sasa0	· ·			
That awood swamp. I caldic associated with sasao	171.			
HYDROLOGY				
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)			
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)			
✓ Surface Water (A1) ✓ Water-Stained Leave	es (B9) Drainage Patterns (B10)			
✓ High Water Table (A2) — Aquatic Fauna (B13) — Table (A2) — Aquatic Fauna (B13) — Table (A2) — Table (B13) — Table				
Saturation (A3) Marl Deposits (B15)				
Water Marks (B1) Hydrogen Sulfide Oc				
	cidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)			
	Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2)			
Iron Deposits (B5) Thin Muck Surface (
Inundation Visible on Aerial Imagery (B7) Other (Explain in Re				
Sparsely Vegetated Concave Surface (B8) Field Observations:	FAC-Neutral Test (D5)			
Surface Water Present? Yes _ ✓ No Depth (inches): 2				
Water Table Present? Yes ✓ No Depth (inches): 10				
Saturation Present? Yes \checkmark No Depth (inches): 10				
(includes capillary fringe)				
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	evious inspections), if available:			
Remarks:				
Seasonally saturated wetland. Receives inundation	n from sasa014i when flooded over banks.			

Tree Stratum (Plot size:30')	Absolute % Cover	Dominant Species?	Indicator	Dominance Test worksheet:
1				Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2				
3				Total Number of Dominant Species Across All Strata: 2 (B)
4				
5				Percent of Dominant Species That Are OBL, FACW, or FAC:
6				Prevalence Index worksheet:
7		= Total Co		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:)	0.0	= Total Co	vei	OBL species
1. Rhamnus cathartica	2.0	N	FΔC	FAC species x 3 =6
2				FACU species10 x 4 =40
3				UPL species0 x 5 =0
				Column Totals: <u>139</u> (A) <u>295</u> (B)
4				Prevalence Index = B/A = 2.12
6				Hydrophytic Vegetation Indicators:
7				
		= Total Co	ver	2 - Dominance Test is >50%
Herb Stratum (Plot size: 5')	2.0	- rotar 00	VOI	3 - Prevalence Index is ≤3.0¹
1. Phalaris arundinacea	85.0	Υ	FACW	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. <u>Mentha arvensis</u>		Y	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Agrimonia gryposepala		N	FACU	
4. Eutrochium maculatum		N	OBL	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <u>Persicaria sagittata</u>		N	OBL	
6. Impatiens capensis		N	FACW	Definitions of Vegetation Strata:
7. <u>Chelone glabra</u>		N	OBL	Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				
9				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
		= Total Co	ver	height.
Woody Vine Stratum (Plot size:30')				
1				
2.				
3.				Hydrophytic
4				Vegetation
		= Total Co	ver	Present? Yes No
Remarks: (Include photo numbers here or on a separate s	sheet.)			
Sample plot is representative of the PE	M portion	on of the	e wetlan	d.

Sampling Point: wasa055e_w2

SOIL Sampling Point: wasa055e_w2

Profile Desc	cription: (E	Describe t	to the dep	th needed	to docun	nent the i	ndicator	or confirm	the absence	of indicators.)		
Depth	0-1/	Matrix	0/	0-1 (x Features		12	Taratana	Describe		
(inches)	Color (4.00	Color (m	ioist)	%	Type'	Loc ²	Texture	Remarks		
0-6	<u>5YR</u>	4/4	100									
6-18	<u>5YR</u>	4/4	90	<u>7.5YR</u>	5/6	_10_	<u>C</u>	_M_	C	Distinct redox		
	-					·						
	-					· ———						
	'											
¹ Type: C=C	oncentratio	n, D=Depl	etion, RM	=Reduced M	latrix, MS	S=Masked	Sand Gr	ains.	2Location	n: PL=Pore Lining, M=Matrix.		
Hydric Soil			,		,					for Problematic Hydric Soils ³ :		
Histosol				-		v Surface	(S8) (LR I	RR,		Muck (A10) (LRR K, L, MLRA 149B)		
	oipedon (A2 istic (A3)	2)			RA 149B) ark Surfa		.RR R. M	LRA 149B)		Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R)		
Hydroge	en Sulfide (A			Loamy	Mucky M	/lineral (F1) (LRR K		Dark Surface (S7) (LRR K, L)			
	d Layers (A d Below Da		(/////		Gleyed I ed Matrix	Matrix (F2))		Polyvalue Below Surface (S8) (LRR K, L)			
-	ark Surface		(A11)			rface (F6)			Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R)			
Sandy N	lucky Mine	ral (S1)		Deplet	ed Dark S	Surface (F	7)		Piedmont Floodplain Soils (F19) (MLRA 149B)			
-	Sleyed Matr	ix (S4)		Redox	Depress	ions (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
-	Redox (S5) I Matrix (S6)							✓ Red Parent Material (F21) ✓ Very Shallow Dark Surface (TF12) ✓ Terms of the property			
	rface (S7) (ILRA 149	В)					Other (Explain in Remarks)			
3Indicators o	f hydronhyt	ic voqotat	ion and w	otland hydro	logy muc	t ha proce	ont unloc	e disturbed	or problemati	0		
Restrictive		-	ion and w	eliano nyoro	logy mus	t be prese	in, unies	s disturbed	or probleman	U.		
Type:												
Depth (in	ches):								Hydric Soil	Present? Yes/ No		
Remarks:									I			
Red clay	with re	dox in	lower l	ayer.								



wasa055e_w2_NE



wasa055e_w2_S

Project/Site: Line 5 Relocation Project	City/County: As	hland	Sampling Date: 2019-10-17					
Applicant/Owner: Enbridge								
Investigator(s): ARK/NTT	r(s): ARK/NTT Section, Township, Range: 046N-004W-06							
Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 3-								
Subregion (LRR or MLRA): Northcentral Forests Lat:								
Soil Map Unit Name: Sedgwick-Munuscong								
Are climatic / hydrologic conditions on the site typical fo								
Are Vegetation, Soil, or Hydrology								
Are Vegetation, Soil, or Hydrology	-							
SUMMARY OF FINDINGS – Attach site m								
JOHNMANT OF FINDINGS – Attach site in			s, important leatures, etc.					
	_ 110 141 : 14	npled Area /etland?	No					
	_ 140							
Wetland Hydrology Present? Yes✓ Remarks: (Explain alternative procedures here or in a		onal Wetland Site ID:						
American elm.								
HYDROLOGY								
Wetland Hydrology Indicators:			ators (minimum of two required)					
Primary Indicators (minimum of one is required; check								
	Water-Stained Leaves (B9) Aquatic Fauna (B13)	✓ Drainage Patterns (B10) ✓ Moss Trim Lines (B16)						
	Marl Deposits (B15)		Moss frim Lines (B16) Dry-Season Water Table (C2)					
	Hydrogen Sulfide Odor (C1)	Crayfish Bu						
	Oxidized Rhizospheres on Living	·	/isible on Aerial Imagery (C9)					
	Presence of Reduced Iron (C4)		Stressed Plants (D1)					
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled S		Position (D2)					
	Thin Muck Surface (C7)	Shallow Aquitard (D3)						
Inundation Visible on Aerial Imagery (B7)	Microtopographic Relief (D4)							
Sparsely Vegetated Concave Surface (B8)		FAC-Neutra	Il Test (D5)					
Field Observations: Surface Water Present? Yes No ✓	Depth (inches):							
	Depth (inches):							
	Depth (inches):	Wetland Hydrology Prese	nt? Yes <u>√</u> No					
(includes capillary fringe)								
Describe Recorded Data (stream gauge, monitoring w	ell, aerial photos, previous inspec	ctions), if available:						
Remarks:	:t	ما ما ما ما						
Water marks and piles of debris dep	ositea throughout 11000	apiain.						

Tree Charles (Districts 20)	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: 30')		Species?	FACW	Number of Dominant Species
1. <u>Fraxinus nigra</u>				That Are OBL, FACW, or FAC:3(A)
2. <u>Ulmus americana</u>				Total Number of Dominant Species Across All Strata: 3 (B)
3				Species Across All Strata:3(B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)
5				That Are OBE, I ACW, OF FAC
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	55	= Total Cov	er	OBL species0 x 1 =0
Sapling/Shrub Stratum (Plot size: 15')				FACW species <u>80</u> x 2 = <u>160</u>
1. Rhamnus cathartica	50	<u>Y</u>	<u>FAC</u>	FAC species 50 x 3 = 150 FACU species 0 x 4 = 0
2				UPL species
3				Column Totals: (A) (B)
4				
5				Prevalence Index = B/A = 2.38
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Cov		✓ 2 - Dominance Test is >50%
Herb Stratum (Plot size:5')				3 - Prevalence Index is ≤3.0¹
1. Rubus pubescens	25	<u>Y</u>	FACW	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2				Problematic Hydrophytic Vegetation ¹ (Explain)
3				¹ Indicators of hydric soil and wetland hydrology must
4				be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
		= Total Cov	ver	height.
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic
4				Vegetation
T		= Total Cov	/er	Present? Yes <u>√</u> No
Remarks: (Include photo numbers here or on a separate s		= Total Cov	· Ei	
Sample plot is representative of the wo and buckthorn.	ody cov	er in the	entire	feature and is dominated by black ash

Sampling Point: wasa055f_w1

SOIL Sampling Point: wasa055f_w1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)												
Depth		Matrix	0/	0-1		x Features		12	T	Days and a		
(inches)	Color (n 7.5YR		100	Color (n	ioist)	%	Type'	Loc ²	SCL	Remarks		
0-8		_	100	7.5\/D	F/0	40				Decreio cot so deci		
<u>8-18</u>	<u>5YR</u>	4/3	90	<u>7.5YR</u>	5/6	_10_		IVI	SCL	Prominent redox		
				-								
						. ——				·		
	-											
	oncentration	, D=Depl	etion, RM	=Reduced N	latrix, MS	S=Masked	Sand Gr	ains.	² Location	n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils ³ :		
Hydric Soil Histosol				Polyva	lue Relov	v Surface	(S8) (I R I	R R		•		
	pipedon (A2))		-	RA 149B)		(00) (EI	τι,	2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R)			
	istic (A3)	4)						LRA 149B)		Mucky Peat or Peat (S3) (LRR K, L, R)		
	en Sulfide (A d Layers (A5				-	/lineral (F1 Matrix (F2		., L)	Dark Surface (S7) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L)			
Deplete	d Below Dar	k Surface	e (A11)	Deplet	ed Matrix	(F3)	,		Thin Dark Surface (S9) (LRR K, L)			
	ark Surface					rface (F6)	7)		Iron-Manganese Masses (F12) (LRR K, L, R)			
	Mucky Minera Gleyed Matrix					Surface (F ions (F8)	7)		Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
Sandy F	Redox (S5)				•	` ,			✓ Red Parent Material (F21)			
	d Matrix (S6) ırface (S7) (I		U DA 440	D)					Very Shallow Dark Surface (TF12)Other (Explain in Remarks)			
Dark 50	inace (57) (L	_KK K, W	ILKA 149	D)								
		-	ion and w	etland hydro	logy mus	t be prese	ent, unles	s disturbed	or problemati	ic.		
Restrictive	Layer (if ob	served):										
Type:	-l\·			<u> </u>					Hydric Soi	I Present? Yes No		
Remarks:	ches):								Tiyano coi	111050III. 105 <u></u> NO <u></u>		
Sandy cl	lav loam	with r	edox b	elow 8 i	nches							
	,											



wasa055f_w1_E



wasa055f_w1_W

Project/Site: Line 5 Relocation Project	City/County: Ashland Sampling Date: 2019-10-09						
•	State: WI Sampling Point: wasa055f_w2						
Investigator(s): ARK/MAL Section, Township, Range: 046N-004W-06							
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-							
	Long: -90.910996 Datum: WGS84						
	nt slopes NWI classification:						
Are climatic / hydrologic conditions on the site typical for this time of year	•						
	disturbed? Are "Normal Circumstances" present? Yes _ ✓ No						
Are Vegetation, Soil, or Hydrology naturally pro							
SUMMARY OF FINDINGS – Attach site map showing	sampling point locations, transects, important features, etc.						
Hydrophytic Vegetation Present? Yes ✓ No	Is the Sampled Area						
Hydric Soil Present? Yes ✓ No	within a Wetland? Yes/ No						
Wetland Hydrology Present? Yes ✓ No	If yes, optional Wetland Site ID:						
Remarks: (Explain alternative procedures here or in a separate report Forested component of depressional wetland component of depression depress	t.) omplex with an intermittent stream running through.						
Surrounding land is hay and fallow field.	omplex with all intermittent stream running through.						
Carrounding land is may and railow field.							
HYDROLOGY							
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)						
Primary Indicators (minimum of one is required; check all that apply)							
Surface Water (A1) Water-Stained L							
High Water Table (A2) Aquatic Fauna (
Saturation (A3) Marl Deposits (B							
Water Marks (B1) Hydrogen Sulfid	le Odor (C1) Crayfish Burrows (C8) spheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)						
Sediment Deposits (B2) Oxidized Rhizos Presence of Re-							
	duction in Tilled Soils (C6) Geomorphic Position (D2)						
Iron Deposits (B5) Thin Muck Surfa							
Instruction Visible on Aerial Imagery (B7) Other (Explain in	· · · · · ·						
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)						
Field Observations:	<u></u>						
Surface Water Present? Yes No Depth (inches):	:						
Water Table Present? Yes No ✓ Depth (inches):							
Saturation Present? Yes No Depth (inches).	Wetland Hydrology Present? Yes No						
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos	s previous inspections) if available:						
Describe Recorded Data (stream gauge, monitoring well, aeriai photos	s, previous inspections), ii available.						
Remarks:							
Seasonally saturated wetland with evidence of	ovenand now.						

	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30')		Species?		Number of Dominant Species
1. <u>Ulmus americana</u>			FACW	That Are OBL, FACW, or FAC:(A)
2. Fraxinus pennsylvanica				Total Number of Dominant
3. <u>Betula papyrifera</u>	5.0	N	<u>FACU</u>	Species Across All Strata: 6.0 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 83.333333333333 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	35.0	= Total Co	ver	OBL species <u>10.0</u> x 1 = <u>10.0</u>
Sapling/Shrub Stratum (Plot size: 15')				FACW species <u>35.0</u> x 2 = <u>70.0</u>
1. Rhamnus cathartica	40.0	Y	FAC	FAC species <u>50.0</u> x 3 = <u>150.0</u>
2. <u>Viburnum lentago</u>	10.0	N	FAC	FACU species x 4 = 60.0
3. Prunus virginiana			<u>FACU</u>	UPL species <u>0.0</u> x 5 = <u>0.0</u>
4				Column Totals:110.0 (A)290.0 (B)
5				Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Co	ver	∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size:5')	00.0	_ rotar 00	• • • • • • • • • • • • • • • • • • • •	3 - Prevalence Index is ≤3.0¹
1. Carex crinita	10.0	Υ	OBL	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. <u>Agrimonia gryposepala</u>	5.0	Y	<u>FACU</u>	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Impatiens capensis</u>			FACW	
4				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5.				
6.				Definitions of Vegetation Strata:
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
		= Total Co	ver	height.
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic
4			-	Hydrophytic Vegetation
T		= Total Co	ver	Present? Yes No
Remarks: (Include photo numbers here or on a separate Ground appears disturbed from overlar ash, and buckthorn.		The ve	getation	is dominated by American elm, green

Sampling Point: wasa055f_w2

SOIL Sampling Point: wasa055f_w2

Profile Desc	cription: ([Describe t	to the de	oth needed	to docun	nent the i	ndicator	or confirm	the absence	of indicators.)		
Depth		Matrix				x Features			- .	5		
(inches)	Color (Color (n	noist)	%	Type'	Loc ²	<u>Texture</u>	Remarks		
0-9	5YR	4/4	100						<u> </u>			
9-20	<u>5YR</u>	4/4	_90_	<u>7.5YR</u>	5/8	_10_	<u> </u>	_M_	C	Prominent redox		
	'											
	1					-						
				-						 -		
	'											
¹ Type: C=C	oncentratio	n, D=Depl	etion, RM	=Reduced N	latrix, MS	S=Masked	Sand Gr	ains.	² Location	n: PL=Pore Lining, M=Matrix.		
Hydric Soil			,		,					for Problematic Hydric Soils ³ :		
Histosol				-		v Surface	(S8) (LR I	RR,		Muck (A10) (LRR K, L, MLRA 149B)		
	oipedon (A2 istic (A3)	2)			RA 149B) ark Surfa		.RR R. M	LRA 149B)		Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R)		
Hydroge	en Sulfide (A			Loamy	Mucky N	lineral (F1) (LRR K		Dark Surface (S7) (LRR K, L)			
	d Layers (A d Below Da		. (Δ11)		Gleyed I ed Matrix	Matrix (F2))		Polyvalue Below Surface (S8) (LRR K, L)			
-	ark Surface		# (ATT)			face (F6)			Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R)			
Sandy N	lucky Mine	ral (S1)		Deplet	ed Dark S	Surface (F	7)		Piedmont Floodplain Soils (F19) (MLRA 149B)			
-	Bleyed Matr Redox (S5)	ix (S4)		Redox	Depress	ions (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
-	redox (SS) I Matrix (S6)							✓ Red Parent Material (F21) ✓ Very Shallow Dark Surface (TF12)			
	rface (S7) (ILRA 149	B)					Other (Explain in Remarks)			
³ Indicators o	f hydronhyt	ic vegetati	ion and w	etland hydro	laav mus	t he nrese	ant unles	s disturbed	or problemati	6		
Restrictive		-	ion and w	charla riyaro	logy mas	t be prese	in, ariico	3 diotarbed	or problemati	o.		
Type:												
	ches):								Hydric Soi	Present? Yes No		
Remarks:	1.								•			
Clay with	i redox.											



wasa055f_w2_N



wasa055f_w2_S

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION					
Project name:	Evaluator(s):				
Line 5 Relocation Project	NTT/DGL				
File #:	Date of visit(s):				
wasa055	09/10/2019				
Location:	Ecological Landsca	pe:			
PLSS: <u>046N-004W-06</u>	Superior Coastal Plain				
	Superior Coastai i iaiii				
Lat: <u>46.487525</u> Long: <u>-90.911534</u>	Watershed: LS10 White River				
County: Ashland Town/City/Village: White River town					
SITE DESCRIPTION					
Soils:	WWI Class:				
Mapped Type(s):	N/A				
280D, 580B, 753B, Odanah silt loam, 15 to 25 percent slopes, Sanborg-Badriver complex, 0	Wetland Type(s):				
to 6 percent slopes, Sedgwick-Munuscong complex, 0 to 6 percent slopes	PEM - Fresh wet meadow, PFO- Hardwood swamp				
Field Verified:	The free free free free free free free fr				
Series not verified. The soils consist of a clay	Wetland Size:	Wetland Area Impacted			
texture.	1.76	1.76			
texture.	0	1.70			
	Vegetation:				
Hydrology:	Plant Community Description(s):				
, ,	Wetland complex that contains a floodplain forest along				
Seasonally saturated based on FAC-Neutral test	an intermittent stream and a wet meadow community				
and geomorphic position.	next to a farm access road. Overall invasive species,				
	such as buckthorn and reed canary grass, are abundant				
	throughout.				

SITE MAP

SECTION 1: Functional Value Assessment

		SECTION 1: Functional Value Assessment			
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty		
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:		
2	N	N	Used for educational or scientific purposes		
3	Υ	Υ	Visually or physically accessible to public		
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation		
_			In or adjacent to RED FLAG areas		
5	N	N	List:		
6	N	N	Supports or provides habitat for endangered, threatened or special concern species		
7	- ' '	1,4	In or adjacent to archaeological or cultural resource site		
WH			Wildlife Habitat		
1	N	N	Wetland and contiguous habitat >10 acres		
2	Y	Y	3 or more strata present (>10% cover)		
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area		
4	Y	Y	100 m buffer – natural land cover >50%(south) 75% (north) intact		
5		1	Occurs in a Joint Venture priority township		
6	N	N			
0	Υ	Y	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)		
7	Υ	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other		
			plans		
8	Υ	Y	Part of a large habitat block that supports area sensitive species		
9	N	N	Ephemeral pond with water present > 45 days		
10	Υ	Υ	Standing water provides habitat for amphibians and aquatic invertebrates		
11	N	N	Seasonally exposed mudflats present		
12	N	Υ	Provides habitat scarce in the area (urban, agricultural, etc.)		
FA			Fish and Aquatic Life Habitat		
1	N	N	Wetland is connected or contiguous with perennial stream or lake		
2	Υ	Υ	Standing water provides habitat for amphibians and aquatic invertebrates		
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system		
4	Υ	Υ	Vegetation is inundated in spring		
SP	-		Shoreline Protection		
1	NA	NA	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable		
			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating		
2	NA	NA	water levels or high flows – if no, not applicable		
3	NA	NA	Densely rooted emergent or woody vegetation		
ST		147	Storm and Floodwater Storage		
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream		
2	N	N	Water flow through wetland is NOT channelized		
3	Y	Y	Dense, persistent vegetation		
4	Y	Y	Evidence of flashy hydrology		
—			Point or non-point source inflow		
5	Y	Y			
6	N	N	Impervious surfaces cover >10% of land surface within the watershed		
7	N	N	Within a watershed with ≤10% wetland		
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event		
WQ			Water Quality Protection		
1	N	N	Provides substantial storage of storm and floodwater based on previous section		
2	N	N	Basin wetland or constricted outlet		
3	N	N	Water flow through wetland is NOT channelized		
4	Υ	Υ	Vegetated wetland associated with a lake or stream		
5	Υ	Y	Dense, persistent vegetation		
6		1	Ciano of avance putriente, queb os algos blooms, boque mographete growth		
	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth		
7	N N	N N	Stormwater or surface water from agricultural land is major hydrology source		
7 8	1				
\vdash	N	N	Stormwater or surface water from agricultural land is major hydrology source		
8	N Y	N Y	Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water		
8 9 GW	N Y N	N Y N	Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes		
8 9 GW 1	N Y N	N Y N	Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present		
8 9 GW 1 2	N Y N N	N Y N	Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland		
8 9 GW 1 2 3	N Y N N N	N Y N N N	Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland Wetland remains saturated for an extended time period with no additional water inputs		
8 9 GW 1 2	N Y N N	N Y N	Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland		

Wi	Idlife Habita	at and Species Observation (including amphibians and reptiles)
	nter, etc.	servation, tracks, scat, other sign; type of habitat: nesting, migratory,
Observed	Potential	Species/Habitat/Comments
Y	Y	White-tailed deer Songbirds
·	Y	Frogs
_		
Fis	sh and Agua	atic Life Habitat and Species Observations
Lis	t: direct ob	servation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observad	Detential	On a singlitude that
Observed	Potential	Species/Habitat

Section 1 Comments (Refer to Section 1 numbers)

HU3-located nearby public roadway. WH2- diverse habitat with floodplain associated with hardwood swamp. FA4- likely floods in the spring. ST4- water marks on trees from flashy hydrology.

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4/	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant [Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Rhamnus cathartica			PEM/PFO	Common
Phalaris arundinacea			PEM	Common
Mentha canadensis			PEM	Common
Agrimonia striata			PEM/PFO	Uncommon
Eutrochium maculatum			PEM	Uncommon
Persicaria sagittata			PEM	Uncommon
Impatiens capensis			PEM/PFO	Uncommon
Chelone glabra			PEM	Uncommon
Ulmus americana			PFO	Common
Fraxinus pennsylvanica			PFO	Uncommon
Betula papyrifera			PFO	Uncommon
Viburnum lentago			PFO	Uncommon
Prunus virginiana			PFO	Uncommon
Carex crinita			PFO	Uncommon
Fraxinus nigra			PFO	Abundant
Rubus pubescens			PFO	Common

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

Low floristic diversity with abundant buckthorn throughout hardwood swamp and reed canary grass in herbaceous layer.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
	X		L	С	Polluted runoff
					Pond construction
					Agriculture – row crops
Х	Х		M	С	Agriculture – hay
					Agriculture – pasture
Х	Х		L	С	Roads or railroad
	Х		L	С	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
	.,				Removal of herbaceous stratum – mowing,
X	X		M	С	grading, earthworms, etc.
	V			0	Removal of tree or shrub strata – logging,
	X		L	С	unprescribed fire
					Human trails – unpaved
					Human trails – paved
	Х		L	С	Removal of large woody debris
Х	Х		M	С	Cover of non-native and/or invasive species
	Х		L	С	Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

ı	Located along a stream but with high cover of invasive species.

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity		✓			
Human Use Values	√				
Wildlife Habitat	√				
Fish and Aquatic Life Habitat	√				
Shoreline Protection					√
Flood and Stormwater Storage	√				
Water Quality Protection	√				
Groundwater Processes	√				

FUNCTION	RATIONALE
Floristic Integrity	High cover of non-natives, but three strata intact
Human Use Values	Within a large habitat block with multiple strata.
Wildlife Habitat	Three strata present and located along a stream corridor, but surrounded by agriculture
Fish and Aquatic Life Habitat	No water present in wetland
Shoreline Protection	N/A
Flood and Stormwater Storage	Located along an intermittent stream
Water Quality Protection	Dense vegetation
Groundwater Processes	Majority of input is from precipitation events

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Asl	nland	Sampling Date: 2019-10-17
•			
Investigator(s): ARK/NTT	Section, Township	o, Range: <u>046N-004W-</u>	06
Landform (hillslope, terrace, etc.): Talf			
Subregion (LRR or MLRA): Northcentral Forests	Lat: 46.487343	Long: -90.911334	Datum: WGS84
Soil Map Unit Name: Sedgwick-Munuscoil			
Are climatic / hydrologic conditions on the site typic		•	
Are Vegetation ✓, Soil, or Hydrology _			
Are Vegetation, Soil, or Hydrology _			
SUMMARY OF FINDINGS – Attach site	e map showing sampling poi	nt locations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes	No ✓ Is the Sam	pled Area	
	No ✓ within a W	etland? Yes	No <u>√</u>
		onal Wetland Site ID:	
Remarks: (Explain alternative procedures here or Upland sample point located within	in a separate report.)		
Opiand Sample point located with	n a recently-cut hay held.		
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indic	ators (minimum of two required)
Primary Indicators (minimum of one is required; cl	neck all that apply)	Surface Soil	Cracks (B6)
	Water-Stained Leaves (B9)	Drainage Pa	atterns (B10)
	Aquatic Fauna (B13)	Moss Trim L	
	Marl Deposits (B15)		Water Table (C2)
	Hydrogen Sulfide Odor (C1)	Crayfish Bu	
	Oxidized Rhizospheres on Living		/isible on Aerial Imagery (C9)
1 	Presence of Reduced Iron (C4)		Stressed Plants (D1)
	Recent Iron Reduction in Tilled SoThin Muck Surface (C7)	Shallow Aqu	Position (D2)
	Other (Explain in Remarks)		raphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	Other (Explain in Remarks)	FAC-Neutra	
Field Observations:		1710 1100110	11 1001 (50)
	✓ Depth (inches):		
	✓ Depth (inches):		
	✓ Depth (inches):	Wetland Hydrology Prese	nt? Yes No✓_
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring)		tions) if available.	
Describe Recorded Data (stream gauge, monitorii	ng well, aerial photos, previous inspec	tions), if available:	
Remarks:			
No wetland hydrology indicators v	vere observed.		

VEGETATION – Use scientific names of plants.

S.					
		t Indicator Status	Dominance Test	t workshee	et:
			Total Number of	Dominant	
			Species Across A	All Strata:	1.0 (B)
			That Are OBL, FA	ACVV, or FA	AC: <u>0.0</u> (A/E
			Prevalence Inde	x workshe	eet:
0.0_ =	= Total Co	ver			
			-		
			-		
			Drovolonoo	Indox - P	/A - 4 O
			-	-	
0.0	= Total Co	ver			
5 0.0	V	EACH	4 - Morpholo	gical Adap	tations ¹ (Provide supportin
			i iobicinatic	пуспорнуп	e vegetation (Explain)
			be present, unles	s disturbed	d or problematic.
			Definitions of Ve	egetation S	Strata:
				, ,	-
			Herb – All herbad	ceous (non	-woody) plants, regardless
			Woody vines – A	All woody v	rines greater than 3.28 ft in
85.0	= Total Co	ver	height.		
			Hydrophytic		
			Vegetation	.,	
			Present?	Yes	No <u></u>
				Number of Domir That Are OBL, F/ Total Number of Species Across A Percent of Domir That Are OBL, F/ Prevalence Inde Total % Cov OBL species FACW species FAC species FAC species UPL species Column Totals: Prevalence Hydrophytic Ver 1 - Rapid Te 2 - Dominan 3 - Prevalence 4 - Morpholo data in Rr 4 - Morpholo data in Rr Problematic Total % Cov OBL species FACU species FACU species Column Totals: Prevalence Hydrophytic Ver 1 - Rapid Te 2 - Dominan 3 - Prevalence FACU Total % Cov OBL species FACU species FACU species Column Totals: Prevalence FACU Total % Cov OBL species FACU species FACU species FACU species Column Totals: Prevalence FACU Total % Cov OBL species FACU species FACU species FACU species FACU species Column Totals: Prevalence FACU Total % Cov OBL species FACU specie	Number of Dominant Species That Are OBL, FACW, or FACU Species Across All Strata: Percent of Dominant Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FACU Species O.O. FACW species O.O. FACW species O.O. FACW species O.O. FACU Species O.O. Column Totals: 85.0 Prevalence Index = B Hydrophytic Vegetation Ir 1 - Rapid Test for Hydro 2 - Dominance Test is 3 - Prevalence Index is 3 - Prevalence Index is 4 - Morphological Adap data in Remarks or 6 - The Acturate of the Acturate

SOIL Sampling Point: wasa055_u1

	ription: ([to the dep				or confirm	n the absence of indicators.)		
Depth (inches)	Color (Matrix moist)	%	Color (moist)	x Features %	Type ¹	Loc ²	Texture Remarks		
0-9		3/3	100					CL		
9-18	5YR	4/3	100					SCL		
										
1= 0.0								2		
Hydric Soil			letion, RIVI:	=Reduced Matrix, MS	i=Masked	Sand Gra	ains.	² Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils ³ :		
Histosol	. ,			Polyvalue Belov		(S8) (LRF	RR,	2 cm Muck (A10) (LRR K, L, MLRA 149B)		
Histic Ep	oipedon (A2	2)		MLRA 149B) Thin Dark Surfa		RRR MI	RΔ 149R)	Coast Prairie Redox (A16) (LRR K, L, R)5 cm Mucky Peat or Peat (S3) (LRR K, L, R		
	en Sulfide (A	A4)		Loamy Mucky N			Dark Surface (S7) (LRR K, L)			
	d Layers (A		o (A44)	Loamy Gleyed Matrix (F2)Depleted Matrix (F3)				Polyvalue Below Surface (S8) (LRR K, L)		
	d Below Da ark Surface		e (ATT)	Redox Dark Sui				Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, F		
Sandy M	lucky Mine	ral (S1)		Depleted Dark Surface (F7)				Piedmont Floodplain Soils (F19) (MLRA 149B)		
	Bleyed Matr Redox (S5)	ix (S4)		Redox Depress	ons (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 1Red Parent Material (F21)		
Stripped	Matrix (S6							Very Shallow Dark Surface (TF12)		
Dark Su	rface (S7) (LRR R, N	ILRA 1491	3)				Other (Explain in Remarks)		
		-		etland hydrology mus	t be prese	ent, unless	disturbed	or problematic.		
Restrictive I	Layer (if ob	served):								
Type:	ahaa).							Hydric Soil Present? Yes No✓		
Remarks:	ches):			 ;				135 <u>1</u> 11 155 111 115 115 115 115 115 115 115		
No hydrid	soil in	dicator	s obse	rved.						
-										



wasa055_u1_E



wasa055_u1_W

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	land	Sampling Date: 2019-10-09
Applicant/Owner: Enbridge			
Investigator(s): ARK/MAL	Section, Township,	Range: 046N-004W-0	06
Landform (hillslope, terrace, etc.): Crest		=	
Subregion (LRR or MLRA): Northcentral Forests Lat: 46			
Soil Map Unit Name: Sanborg-Badriver comple			
Are climatic / hydrologic conditions on the site typical for this	•		
Are Vegetation, Soil, or Hydrologys			
Are Vegetation, Soil, or Hydrology r			
SUMMARY OF FINDINGS – Attach site map	showing sampling poir	it locations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes✓ N	ls the Samp	oled Area	
Hydric Soil Present? Yes N		tland? Yes	No <u> </u>
Wetland Hydrology Present? Yes N		nal Wetland Site ID:	
Remarks: (Explain alternative procedures here or in a sep Herbaceous vegetation succeeding to	parate report.)	eated poor a road o	and hav fields
Herbaceous vegetation succeeding to v	woody vegetation. Lo	icaleu near a roau a	and nay neids.
HYDROLOGY			
Wetland Hydrology Indicators:	-	Secondary Indica	tors (minimum of two required)
Primary Indicators (minimum of one is required; check all	that apply)	Surface Soil	Cracks (B6)
	er-Stained Leaves (B9)	Drainage Pat	terns (B10)
	atic Fauna (B13)	Moss Trim Li	
	I Deposits (B15)	· ·	Water Table (C2)
	rogen Sulfide Odor (C1)	Crayfish Burr	
	dized Rhizospheres on Living R		sible on Aerial Imagery (C9)
1 -	sence of Reduced Iron (C4)		ressed Plants (D1)
	ent Iron Reduction in Tilled Soi		
	n Muck Surface (C7) er (Explain in Remarks)	Shallow Aqui	phic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	si (Expiaiii iii Neiliaiks)	FAC-Neutral	·
Field Observations:		I AC-Nedital	Test (D3)
	pth (inches):		
	pth (inches):		
		Wetland Hydrology Presen	t? Yes No ✓
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring well,	aeriai photos, previous inspecti	ons), if available:	
Remarks:			
No indicators of wetland hydrology wer	e observed.		

VEGETATION – Use scientific names of plants.

	•			Sampling Point: <u>wasa055_u2</u>		
Tree Stratum (Plot size: 30')	Absolute % Cover		Indicator Status	Dominance Test worksheet:		
1. <u>Populus tremuloides</u>	15.0	Y	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: 3.0 (A)		
2. <i>Malus domestica</i>						
3				Total Number of Dominant Species Across All Strata: 5.0 (B)		
4				、 /		
				Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0 (A/B)		
5.				, ,		
6				Prevalence Index worksheet:		
7				Total % Cover of: Multiply by:		
	15.0	= Total Co	ver	OBL species 0.0 x 1 = 0.0		
Sapling/Shrub Stratum (Plot size: 15')				FACW species 35.0 x 2 = 70.0		
1. <u>Cornus alba</u>				FACULARISTICS 50.0 x 3 = 150.0		
2. <u>Cornus racemosa</u>	25.0	Y	FAC	FACU species 62.0 x 4 = 248.0		
3. <u>Rubus idaeus</u>	10.0	N	FAC	UPL species $0.0 x = 0.0$ Column Totals: $147.0 (A) 468.0 (B)$		
4. <u>Rosa blanda</u>	5.0	N	<u>FACU</u>	Column Totals. 147.0 (A) 400.0 (B)		
5				Prevalence Index = B/A = 3.2		
6.				Hydrophytic Vegetation Indicators:		
				1 - Rapid Test for Hydrophytic Vegetation		
7			-	∠ 2 - Dominance Test is >50%		
	75.0	= Total Co	ver	3 - Prevalence Index is ≤3.0¹		
Herb Stratum (Plot size: 5')				4 - Morphological Adaptations ¹ (Provide supporting		
1. <u>Solidago altissima</u>		<u>Y</u>	<u>FACU</u>	data in Remarks or on a separate sheet)		
2. <u>Poa pratensis</u>	20.0	<u>Y</u>	<u>FACU</u>	Problematic Hydrophytic Vegetation ¹ (Explain)		
3. <i>Phleum pratense</i>	5.0	N	<u>FACU</u>	¹ Indicators of hydric soil and wetland hydrology must		
4. <u>Taraxacum officinale</u>	5.0	N	<u>FACU</u>	be present, unless disturbed or problematic.		
5. <u>Agrimonia gryposepala</u>	5.0	N	<u>FACU</u>	Definitions of Vegetation Strata:		
6. <u>Lotus corniculatus</u>		Ν	FACU			
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
8						
				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.		
9						
10		<u> </u>		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.		
11						
12				Woody vines – All woody vines greater than 3.28 ft in height.		
	57.0	= Total Co	ver	Troight.		
Woody Vine Stratum (Plot size:)						
1						
2						
3.				Hydrophytic		
o				Vegetation		
Λ				Present? Yes _ / No		
4	0.0					

SOIL Sampling Point: wasa055_u2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth (inches)	Color (Matrix	%	Color (n		x Features %	Type ¹	Loc ²	Texture	Remarks
0-7	7.5YR		100	Color (II	10151)	70	туре	LOC	CI	Remarks
				7.5YR	3/3	40	С	M	C	Prominent redox
							С	M	C	
Type: C=Ci Hydric Soil Histosol Histic E Black Hi Hydroge Stratifier Deplete Thick Da Sandy N Sandy R Sandy R Stripped Dark Su	<u> </u>					ains. R R, LRA 149B)	Indicators 2 cm Coast 5 cm Dark \$ Polyva Thin E Iron-M Piedm Mesic Red F Very \$ Other	Prominent redox The PL=Pore Lining, M=Matrix. The Froblematic Hydric Soils ³ : Muck (A10) (LRR K, L, MLRA 149B) The Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L) The Prairie Redox (S8) (LRR K,		
Restrictive		_		oliana nyaro	logy mad	7. 50 p. 000	, ariioo	o diotalboa	or problemati	<u>. </u>
Type:										
	ches):								Hydric Soi	I Present? Yes No _✓
Remarks: Clay loar	m over (clay wi	th redo	ox. No hy	dric s	oil indi	cators	observe	ed.	



wasa055_u2_N



wasa055_u2_S

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	ıland	_ Sampling Date: 2019-09-11
Applicant/Owner: Enbridge			
Investigator(s): NTT/DGL			
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.4			
Soil Map Unit Name: Sanborg-Badriver complex,			
Are climatic / hydrologic conditions on the site typical for this ti			
Are Vegetation, Soil, or Hydrology sign			
Are Vegetation, Soil, or Hydrology nat			
SUMMARY OF FINDINGS – Attach site map sh	lowing sampling poi	nt locations, transect	s, important features, etc.
Hydrophytic Vegetation Present? Yes ✓ No _	Is the Sam	pled Area	
Hydric Soil Present? Yes ✓ No	141 1 184	etland? Yes <u>√</u>	No
Wetland Hydrology Present? Yes _ ✓ No		nal Wetland Site ID:	
Remarks: (Explain alternative procedures here or in a separ	ate report.)		
Linear depressional wetland located with	in a roadside ditch	along Highway 11	2.
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indic	cators (minimum of two required)
Primary Indicators (minimum of one is required; check all that	it apply)	Surface Soi	il Cracks (B6)
✓ Surface Water (A1) Water-	Stained Leaves (B9)	Drainage P	atterns (B10)
Aquati	c Fauna (B13)	Moss Trim I	Lines (B16)
	eposits (B15)		n Water Table (C2)
	gen Sulfide Odor (C1)	Crayfish Bu	
	ed Rhizospheres on Living F		Visible on Aerial Imagery (C9)
	nce of Reduced Iron (C4)		Stressed Plants (D1)
	t Iron Reduction in Tilled So luck Surface (C7)	oils (C6) <u>√</u> Geomorphio Shallow Aq	
	(Explain in Remarks)		raphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	,Explain in Nomano)	Microtopogii	
Field Observations:		<u> </u>	
Surface Water Present? Yes No Depth	ı (inches): 2		
Water Table Present? Yes _ ✓ No Depth			
Saturation Present? Yes _ ✓ No Depth		Wetland Hydrology Prese	ent? Yes <u>√</u> No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aer	rial nhotos, previous inspect	tions) if available:	
Describe Recorded Data (stream gauge, monitoring well, act	iai priotos, previodo iriopeot	iono), ii availabio.	
Remarks: Standing water present throughout feature	ro at the time of the	o field evaluation	
Standing water present imoughout reatur		s lielu evaluation.	

VEGETATION – Use scientific names of plants.

				Sampling Point: wasa058e_w
Tree Stratum (Plot size: 30')	Absolute % Cover			Dominance Test worksheet:
1		•		Number of Dominant Species That Are OBL, FACW, or FAC:3(A)
2				Total Number of Dominant
3				Species Across All Strata: (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC:
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0.0_=	= Total Co	over	OBL species 30 x 1 = 30
Sapling/Shrub Stratum (Plot size: 15')				FACW species <u>35</u> x 2 = <u>70</u>
1				FAC species 30 x 3 = 90 FACU species 10 x 4 = 40
2				UPL species
3				Column Totals: 105 (A) 230 (B)
4				
5				Prevalence Index = B/A = 2.19
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
	0.0	= Total Co	over	✓ 3 - Prevalence Index is ≤3.0 ¹
Herb Stratum (Plot size: 5')	o=		=	4 - Morphological Adaptations ¹ (Provide supporting
1. <u>Echinochloa crus-galli</u>		<u>Y</u>	_FAC_	data in Remarks or on a separate sheet)
2. <u>Typha X glauca</u>		<u>Y</u>	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Phalaris arundinacea</u>		Y	FACW	¹ Indicators of hydric soil and wetland hydrology must
4. <u>Agrostis gigantea</u>			FACW	be present, unless disturbed or problematic.
5. <u>Juncus effusus</u>		N	OBL	Definitions of Vegetation Strata:
6. Rumex crispus		_N_	_FAC_	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7. Lotus corniculatus		_N_	FACU	at breast height (DBH), regardless of height.
8. <u>Ambrosia artemisiifolia</u>			<u>FACU</u>	Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11.				Woody vines – All woody vines greater than 3.28 ft in
12				height.
	<u> 105</u> =	= Total Co	over	
1				
Woody Vine Stratum (Plot size:30') 1 2				
1				Hydrophytic Vegetation
1 2				Hydrophytic Vegetation Present? Yes✓ No

SOIL Sampling Point: wasa058e_w

	cription: (Describe to	the depth				or confirm	the absence of inc	dicators.)
Depth	Matrix			x Features		. 2	- .	D
<u>(inches)</u>	Color (moist)	% 	Color (moist)		Type ¹	_Loc ²	Texture	Remarks
	oncentration, D=Deple	etion, RM=R	educed Matrix, MS	S=Masked	Sand Gra	ains.		Pore Lining, M=Matrix.
Black Hi Hydroge Stratified Depleted Thick Da Sandy M Sandy R Stripped Dark Su Restrictive I	(A1) pipedon (A2)	LRA 149B)	_	ce (S9) (L flineral (F1 Matrix (F2 (F3) fface (F6) Surface (F ions (F8)	.RR R, MI I) (LRR K) (7)	.RA 149B) L)	2 cm Muck (Coast Prairie 5 cm Mucky Dark Surface Polyvalue Be Thin Dark St Iron-Mangar Piedmont Fle Mesic Spodi Red Parent I Very Shallov/ Other (Explain or problematic.	A10) (LRR K, L, MLRA 149B) e Redox (A16) (LRR K, L, R) Peat or Peat (S3) (LRR K, L, R) e (S7) (LRR K, L) elow Surface (S8) (LRR K, L) urface (S9) (LRR K, L) nese Masses (F12) (LRR K, L, R) oodplain Soils (F19) (MLRA 149B) c (TA6) (MLRA 144A, 145, 149B) Material (F21) v Dark Surface (TF12) sin in Remarks)
Remarks: Soils well		due to	the proximity			_		. Soils are assumed to



wasa058e_w_N



wasa058e_w_S

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION		
	Fyeluctor(e)	
Project name:	Evaluator(s): MAL/NTT/DGL	
Line 5 Relocation Project		
File #:	Date of visit(s):	
wasa058	09/11/2019	
Location:	Ecological Landsca	ape:
PLSS: <u>046N-004W-06</u>	Superior Coastal Plain	
	<u> </u>	
Lat: <u>46.487415</u> Long: <u>-90.907292</u>	Watershed:	
	LS10, White River	
County: Ashland Town/City/Village: White River town		
SITE DESCRIPTION		
Soils:	WWI Class:	
Mapped Type(s):	N/A	
580B Sanborg-Badriver complex 0 to 6 percent slopes	Wetland Type(s):	
	PEM - Fresh We	et Meadow
Field Verified:		. moadon
The soils were not sampled due to the proximity	Wetland Size:	Wetland Area Impacted
of underground utilities.	0.18	0.18
	Vegetation:	
		Acceription(s):
Hydrology:	Plant Community D	• • •
The wetland is a seasonally saturated feature		ant community in a roadside
•	ditch dominated	by reed canary grass, cattail,
with recharge hydrology. Standing water present	and barnyard gra	ass.
at time of survey.	j	
•		

SITE MAP		

SECTION 1: Functional Value Assessment

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Υ	Y	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
	- ' '	- 11	In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	IN	111	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	N	N N	3 or more strata present (>10% cover)
3			Within or adjacent to habitat corridor or established wildlife habitat area
4	N	N	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
	N	N N	
5	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	N	N	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present <u>> 45 days</u>
10	N	N	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	N	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	N	Vegetation is inundated in spring
SP		.,	Shoreline Protection
1	NA	NA	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	NA	NA	water levels or high flows – if no, not applicable
3	NA	NA	Densely rooted emergent or woody vegetation
ST	INA	INA	Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Y	Y	Water flow through wetland is NOT channelized
3	Y	Y	Dense, persistent vegetation
4	1		Evidence of flashy hydrology
_	N	N	Point or non-point source inflow
5	N	N	
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N 1	Within a watershad with 400/ wetland
		N	Within a watershed with <10% wetland
8	N	N N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection
WQ 1	N N	N N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section
WQ 1 2	N N Y	N N Y	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet
WQ 1 2 3	N N Y Y	N N Y	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized
WQ 1 2 3 4	N N Y Y	N N Y Y	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream
WQ 1 2 3 4 5	N Y Y N Y	N N Y Y N Y	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation
WQ 1 2 3 4 5	N Y Y N Y	N N Y Y N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
WQ 1 2 3 4 5 6 7	N Y Y N Y	N N Y Y N Y	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source
WQ 1 2 3 4 5	N Y Y N Y	N N Y Y N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water
WQ 1 2 3 4 5 6 7	N Y Y N Y N	N N Y Y N N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50%
WQ 1 2 3 4 5 6 7 8	N Y Y N Y N N Y	N Y Y N Y N N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water
WQ 1 2 3 4 5 6 7 8 9 GW	N Y Y N Y N N Y	N N Y Y N N N Y	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes
WQ 1 2 3 4 5 6 7 8 9 GW	N Y Y N Y N N N	N N Y Y N N N N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present
WQ 1 2 3 4 5 6 7 8 9 GW 1 2	N Y Y N Y N N Y	N Y Y N N N N N N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland
WQ 1 2 3 4 5 6 7 8 9 GW 1 2 3	N Y Y N Y N N Y N	N N Y Y N N N N N N N N N N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland Wetland remains saturated for an extended time period with no additional water inputs
WQ 1 2 3 4 5 6 7 8 9 GW 1 2	N Y Y N Y N N Y	N Y Y N N N N N N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland

\\/:	Idlifa Habita	at and Species Observation (including amphibians and reptiles)
Lis	st: direct of	oservation, tracks, scat, other sign; type of habitat: nesting, migratory,
	nter, etc.	
bserved	Potential Y	Species/Habitat/Comments Potential invertebrate, bird, mammal, habitat for species that inhabit disturbed areas
	,	Toternia invertebrate, bira, manimai, nabitat for species that initiabit distarbed areas.
Fis	sh and Aqua	atic Life Habitat and Species Observations
Lis	st: direct ob	oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
bserved	Potential	Species/Habitat

Section 1 Comments (Refer to Section 1 numbers)

HU-3: Feature visible from roadside.

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	inity intogrity (on olo)			
	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Echinochloa crus-galli			PEM	Common
Typha X glauca			PEM	Common
Phalaris arundinacea			PEM	Common
Agrostis gigantea			PEM	Common
Juncus effusus			PEM	Uncommon
Rumex crispus			PEM	Uncommon
Lotus corniculatus			PEM	Uncommon
Ambrosia artemisiifolia			PEM	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The floristic integrity is low and dominated by non-native species including barnyard grass, cattail, and reed canary grass.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor	
` '					Filling, berms (non-impounding)	
					Drainage – tiles, ditches	
					Hydrologic changes - high capacity wells,	
					impounded water, increased runoff	
					Point source or stormwater discharge	
X	Х		М	С	Polluted runoff	
					Pond construction	
X	Х		Н	С	Agriculture – row crops	
					Agriculture – hay	
					Agriculture – pasture	
	Х		М	С	Roads or railroad	
X	Х		М	С	Utility corridor (above or subsurface)	
					Dams, dikes or levees	
					Soil subsidence, loss of soil structure	
					Sediment input	
V			N 4		Removal of herbaceous stratum – mowing,	
X	X		M		grading, earthworms, etc.	
					Removal of tree or shrub strata – logging,	
					unprescribed fire	
					Human trails – unpaved	
					Human trails – paved	
					Removal of large woody debris	
Χ	Х		M	С	Cover of non-native and/or invasive species	
					Residential land use	
					Urban, commercial or industrial use	
					Parking lot	
					Golf course	
					Gravel pit	
					Recreational use (boating, ATVs, etc.)	
					Excavation or soil grading	
					Other (list below):	

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

Invasive species dominated wetland adjacent to roadway and row crop fields. Portions of feature appear to be mowed.
mowed.

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION	SIGNIFICANCE									
	Low	Medium	High	Exceptional	NA					
Floristic Integrity	√		_							
Human Use Values	√									
Wildlife Habitat	√									
Fish and Aquatic Life Habitat	√									
Shoreline Protection					√					
Flood and Stormwater Storage	√									
Water Quality Protection	•	✓								
Groundwater Processes	√									

FUNCTION	RATIONALE
Floristic Integrity	High invasive species cover, multiple stressors influencing plant community
Human Use Values	Visible from roadway, low aesthetic value.
Wildlife Habitat	Ditch near roadway with limited species diversity.
Fish and Aquatic Life Habitat	No standing water present.
Shoreline Protection	
Flood and Stormwater Storage	Ditch receives runoff from row crop fields, roadway, but is sparsely vegetated at points
Water Quality Protection	Feature likely holds water from farmed field and roadway due to dense vegetation.
Groundwater Processes	Recharge hydrology, standing water present throughout ditch.

Section 4: Project Impact Assessment

Brief Project Description

The project is a pipeline relocation that will result in temporary wetland impacts.						

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary ditching/fill impacts	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Temporary potential sedimentation/compaction impacts	Low
Cumulative Impacts	Temporary construction impacts	Low
Spatial/Habitat Integrity	Temporary construction impacts	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: As	nland	Sampling Date: 2019-09-11
Applicant/Owner: Enbridge		State: WI	Sampling Point: wasa058_u
Investigator(s): NTT/DGL	Section, Township	o, Range: <u>046N-004W-0</u>	06
Landform (hillslope, terrace, etc.): Talf	Local relief (concave,	convex, none): None	Slope (%): <u>0-2%</u>
Subregion (LRR or MLRA): Northcentral Forests L			
Soil Map Unit Name: Sanborg-Badriver co			
Are climatic / hydrologic conditions on the site typical	I for this time of year? Yes✓	No (If no, explain in R	emarks.)
Are Vegetation $\underline{\hspace{1em}\checkmark\hspace{1em}}$, Soil $\underline{\hspace{1em}\checkmark\hspace{1em}}$, or Hydrology $\underline{\hspace{1em}}$	significantly disturbed?	Are "Normal Circumstances" p	resent? Yes No✓
Are Vegetation, Soil, or Hydrology	naturally problematic?	(If needed, explain any answer	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site	map showing sampling poi	nt locations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes	No✓ Is the Sam	-	
Hydric Soil Present? Yes	No <u>√</u> within a W	etland? Yes	No/
		onal Wetland Site ID:	
Remarks: (Explain alternative procedures here or i			
Agricultural field planted in corn ald	ong State Highway 112.		
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indica	tors (minimum of two required)
Primary Indicators (minimum of one is required; che	eck all that apply)	Surface Soil	Cracks (B6)
Surface Water (A1)	_ Water-Stained Leaves (B9)	Drainage Pat	terns (B10)
	Aquatic Fauna (B13)	Moss Trim Li	nes (B16)
	_ Marl Deposits (B15)	Dry-Season \	Water Table (C2)
	_ Hydrogen Sulfide Odor (C1)	Crayfish Burr	
	_ Oxidized Rhizospheres on Living		sible on Aerial Imagery (C9)
	Presence of Reduced Iron (C4)		ressed Plants (D1)
	Recent Iron Reduction in Tilled So		
	_ Thin Muck Surface (C7)	Shallow Aqui	
	_ Other (Explain in Remarks)	Microtopogra	
Sparsely Vegetated Concave Surface (B8) Field Observations:		FAC-Neutral	Test (D5)
	Depth (inches):		
	Depth (inches):		
	Depth (inches):	Wetland Hydrology Presen	t? Yes No_ <u>√</u>
(includes capillary fringe)			t: 1es NO_ <u>γ</u>
Describe Recorded Data (stream gauge, monitoring	g well, aerial photos, previous inspec	tions), if available:	
Remarks:			
No wetland hydrology indicators w	ere observed.		
, 0,			

VEGETATION – Use scientific names of plants.

T. O (D	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)		Species?		Number of Dominant Species
1				That Are OBL, FACW, or FAC:(A)
2				Total Number of Dominant
3		-	·	Species Across All Strata:1 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 0.00 (A/B)
6	_			Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0.0	= Total Co	ver	OBL species 0 x 1 = 0
Sapling/Shrub Stratum (Plot size:)				FACW species0 x 2 =0
1				FAC species0 x 3 =0
2				FACU species15 x 4 =60
				UPL species0 x 5 =0
3				Column Totals:15 (A)60 (B)
4				Prevalence Index = B/A = 4.00
5				
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
	0.0	= Total Co	ver	3 - Prevalence Index is ≤3.0 ¹
Herb Stratum (Plot size: 5')	50	V	N.II	4 - Morphological Adaptations ¹ (Provide supporting
1. Zea mays		Y	_NL	data in Remarks or on a separate sheet)
2. <u>Sonchus arvensis</u>		N	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Solidago canadensis</u>	5	N	FACU	¹ Indicators of hydric soil and wetland hydrology must
4		-		be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6	_			Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8	_			Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11.			·	of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
12.		= Total Co	vor	height.
Woody Vine Stratum (Plot size:30')	00	= 10(a) 00	vei	
1				
2				
3				Hydrophytic Vegetation
4				Present? Yes No ✓
		= Total Co	ver	
Remarks: (Include photo numbers here or on a separate Sample recorded on the edge of a field		d in corr	n (row cr	rop).

Sampling Point: wasa058_u

SOIL Sampling Point: wasa058_u

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth Matrix			k Features		. 2	- .	5		
(inches) Color (moist)		Color (moist)	%	Type ¹	Loc ²	Texture	Remarks		
¹ Type: C=Concentration, D=Deple	etion, RM=Re	duced Matrix, MS	S=Masked	Sand Gra	ains.		Pore Lining, M=Matrix.		
Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, M Indicators of hydrophytic vegetati	 LRA 149B)	Polyvalue Below MLRA 149B) Thin Dark Surfa Loamy Mucky M Loamy Gleyed M Depleted Matrix Redox Dark Sur Depleted Dark S Redox Depressi	ce (S9) (L flineral (F1 Matrix (F2) (F3) fface (F6) Surface (F fons (F8)	RR R, MI) (LRR K)	.RA 149B) L)	2 cm Muck (A Coast Prairie 5 cm Mucky I Dark Surface Polyvalue Be Thin Dark Su Iron-Mangane Piedmont Flo Mesic Spodic Red Parent I Very Shallow Other (Explai	oblematic Hydric Soils ³ : A10) (LRR K, L, MLRA 149B) Redox (A16) (LRR K, L, R) Peat or Peat (S3) (LRR K, L, R) (S7) (LRR K, L) low Surface (S8) (LRR K, L) rface (S9) (LRR K, L) ese Masses (F12) (LRR K, L, R) odplain Soils (F19) (MLRA 149B) c (TA6) (MLRA 144A, 145, 149B) Material (F21) Dark Surface (TF12) n in Remarks)		
Type: Depth (inches):		_				Hydric Soil Prese	nt? Yes No_ <u>√</u>		
Remarks: Soils were not sampled based on vegetation ar	I due to th	•		ied util	ities. So	oils are assum	ned to be non-hydric		



wasa058_u_N



wasa058_u_S

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: A	shland	Sampling Date: 2019-09-11
Applicant/Owner: Enbridge			
Investigator(s): NTT/DGL			
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests Lat			
Soil Map Unit Name: Sanborg-Badriver com			
Are climatic / hydrologic conditions on the site typical f			
Are Vegetation, Soil, or Hydrology			
Are Vegetation, Soil, or Hydrology			
SUMMARY OF FINDINGS – Attach site n	nap showing sampling p	oint locations, transec	ts, important features, etc.
Hydrophytic Vegetation Present? Yes	No Is the Sa	impled Area	
	110	Wetland? Yes	/ No
		tional Wetland Site ID:	
Remarks: (Explain alternative procedures here or in	a separate report.)		
Depressional graminoid-dominated	roadside ditch along h	lighway 112.	
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Ind	icators (minimum of two required)
Primary Indicators (minimum of one is required; chec	k all that apply)	· · · · · · · · · · · · · · · · · · ·	· · · · · ·
-	Water-Stained Leaves (B9)	Drainage F	
	Aquatic Fauna (B13)	Moss Trim	
	Marl Deposits (B15)		on Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish B	surrows (C8)
	Oxidized Rhizospheres on Livin		Visible on Aerial Imagery (C9)
	Presence of Reduced Iron (C4)		Stressed Plants (D1)
	Recent Iron Reduction in Tilled		nic Position (D2)
	Thin Muck Surface (C7)	Shallow A	
	Other (Explain in Remarks)		graphic Relief (D4)
Sparsely Vegetated Concave Surface (B8) Field Observations:		FAC-Neuti	rai Test (D5)
	Depth (inches): 3		
	Depth (inches): 0		
	Depth (inches): 0		sent? Yes <u>√</u> No
(includes capillary fringe)	- , , , ,		
Describe Recorded Data (stream gauge, monitoring	well, aerial photos, previous insp	ections), if available:	
Remarks:			
Roughly three inches of standing wa	ater present throughor	ut the ditch.	

VEGETATION – Use scientific names of plants.

EGETATION – Use scientific names of plants				Sampling Point: wasa057e_w
Tree Stratum (Plot size:30')	Absolute % Cover		nt Indicator	Dominance Test worksheet:
1		-		Number of Dominant Species That Are OBL, FACW, or FAC:1 (A)
2				Total Number of Dominant
3				Species Across All Strata: (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0.0	= Total Co	over	OBL species x 1 = 15
Sapling/Shrub Stratum (Plot size: 15')				FACW species <u>85</u> x 2 = <u>170</u> FAC species <u>7</u> x 3 = <u>21</u>
1				FACU species x 4 = 8
2				UPL species 0 x 5 = 0
3				Column Totals: 109 (A) 214 (B)
4				Prevalence Index = B/A =1.96
5				
6				Hydrophytic Vegetation Indicators:
7				✓ 1 - Rapid Test for Hydrophytic Vegetation✓ 2 - Dominance Test is >50%
	0.0	= Total Co	over	\checkmark 3 - Prevalence Index is $\le 3.0^1$
Herb Stratum (Plot size: <u>5'</u>) 1. <i>Phalaris arundinacea</i>	75	Y	FACW	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. <u>Scirpus cyperinus</u>		N	OBL	Problematic Hydrophytic Vegetation¹ (Explain)
3. <u>Carex annectens</u>		N	FACW	
4. <u>Cicuta maculata</u>		N	OBL	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <u>Rumex crispus</u>		N	FAC	
6. <u>Solidago canadensis</u>			FACU	Definitions of Vegetation Strata:
7. <u>Symphyotrichum lateriflorum</u>			FAC	Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9.				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	109			height.
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic
4				Vegetation Present? Yes No
	0.0	= Total Co	over	105 <u>v</u> 100 <u></u>
Remarks: (Include photo numbers here or on a separate Linear depressional ditch dominated by Braun-Blanquet scale used.	sheet.) / reed ca	anary g	grass with	h other disturbance-oriented species.

SOIL Sampling Point: wasa057e_w

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
	Matrix 2		x Features		. 2	- .	D		
(inches) Color (m	oist) %	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks		
			· ——						
		-	· ——						
1T	D. Danietica, Di	M. Dadard Matrix MG	Nanta d	0		21 a a a fina a DI	Dan Haira M Marin		
¹ Type: C=Concentration, Hydric Soil Indicators:	D=Depletion, R	M=Reduced Matrix, MS	s=Masked	Sand Gra	ains.		Pore Lining, M=Matrix. roblematic Hydric Soils ³ :		
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Thick Dark Surface (Sandy Mucky Minera Sandy Gleyed Matrix Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (L	Surface (A11) A12) I (S1) (S4) RR R, MLRA 14		ice (S9) (L flineral (F1) Matrix (F2) (F3) fface (F6) Surface (F6) ions (F8)	RR R, MI) (LRR K 7)	.RA 149B) , L)	2 cm Muck (Coast Prairie 5 cm Mucky Dark Surface Polyvalue Be Thin Dark Si Iron-Mangar Piedmont Fle Mesic Spodi Red Parent I Very Shallov Other (Explain	A10) (LRR K, L, MLRA 149B) e Redox (A16) (LRR K, L, R) Peat or Peat (S3) (LRR K, L, R) e (S7) (LRR K, L) elow Surface (S8) (LRR K, L) urface (S9) (LRR K, L) nese Masses (F12) (LRR K, L, R) codplain Soils (F19) (MLRA 149B) c (TA6) (MLRA 144A, 145, 149B) Material (F21) v Dark Surface (TF12) sin in Remarks)		
Restrictive Layer (if obs									
Depth (inches):						Hydric Soil Prese	ent? Yes <u>√</u> No		
Remarks: Soils were not sa be hydric based o							. Soils are assumed to		



wasa057e_w_N



wasa057e_w_S

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION		
Project name: Line 5 Relocation Project	Evaluator(s): MAL/NTT/DGL	
File #: wasa057	Date of visit(s):	
Location: PLSS: 046N-004W-06	09/11/2019 Ecological Landscape:	
PLSS. <u>046IN-004W-06</u>	Superior Coastal Plain	
Lat: <u>46.487377</u> Long: <u>-90.907718</u>	Watershed: LS10, White River	
County: Ashland Town/City/Village: White River town		
SITE DESCRIPTION		
Soils:	WWI Class:	
Mapped Type(s): 580B, Sanborg-Badriver complex 0 to 6 percent slopes Field Verified:	Wetland Type(s): PEM - Fresh Wet Meadow	
The soils were not sampled due to the proximity of underground utilities.	Wetland Size: 0.14	Wetland Area Impacted 0.14
	Vegetation: Plant Community D	Description(s):
Hydrology: The wetland is seasonally saturated with about three inches of standing water present throughout the ditch.	The wetland is a wet meadow community in a roadside ditch that is dominated by reed canary grass.	

 SITE MAP	

SECTION 1: Functional Value Assessment

			Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	Ν	Ν	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
_			In or adjacent to RED FLAG areas
5	N	Ν	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7			In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	Y	Y	100 m buffer – natural land cover >50%(south) 75% (north) intact
5			Occurs in a Joint Venture priority township
6	N	N	
0	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	Ν	Ν	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present > 45 days
10	N	N	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	Ν	Ν	Wetland is connected or contiguous with perennial stream or lake
2	N	N	Standing water provides habitat for amphibians and aquatic invertebrates
3	Ν	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	Ν	N	Vegetation is inundated in spring
SP			Shoreline Protection
1	NA	NA	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	NA	NA	water levels or high flows – if no, not applicable
3	NA	NA	Densely rooted emergent or woody vegetation
ST	1 47 (14/1	Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Y	Y	Water flow through wetland is NOT channelized
3	Y		Water new through wettand to two t charmonized
4			Dense persistent vegetation
4		Υ	Dense, persistent vegetation
_	N	Y N	Evidence of flashy hydrology
5	N N	Y N N	Evidence of flashy hydrology Point or non-point source inflow
6	N N N	Y N N	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed
6 7	N N N	Y N N N	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland
6 7 8	N N N	Y N N	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
6 7 8 WQ	N N N N	Y N N N N	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection
6 7 8 WQ 1	N N N N N	Y N N N N N N Y	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section
6 7 8 WQ 1 2	N N N N N	Y N N N N N Y Y	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet
6 7 8 WQ 1 2 3	N N N N N N	Y N N N N N Y Y Y	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized
6 7 8 WQ 1 2 3 4	N N N N N N	Y N N N N N Y Y N	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream
6 7 8 WQ 1 2 3 4 5	N N N N N N Y	Y N N N N N Y Y Y N Y	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation
6 7 8 WQ 1 2 3 4 5 6	N N N N N N Y Y	Y N N N N N Y Y Y N N N	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
6 7 8 WQ 1 2 3 4 5 6 7	N N N N N N Y	Y N N N N N Y Y Y N Y	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source
6 7 8 WQ 1 2 3 4 5 6	N N N N N N Y Y	Y N N N N N Y Y Y N N N	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water
6 7 8 WQ 1 2 3 4 5 6 7	N N N N N N Y Y Y N N	Y N N N N N N Y Y Y N N Y	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50%
6 7 8 WQ 1 2 3 4 5 6 7	N N N N N N Y Y N Y	Y N N N N N Y Y Y Y N Y Y Y Y	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water
6 7 8 WQ 1 2 3 4 5 6 7 8 9 GW	N N N N N N Y Y N Y N N	Y N N N N N N Y Y Y N Y N N N N N N N N	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes
6 7 8 WQ 1 2 3 4 5 6 7 8 9 GW	N N N N N Y Y N N N N N N N N N N N N N	Y N N N N N N Y Y Y N N N N N N N N N N	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present
6 7 8 WQ 1 2 3 4 5 6 7 8 9 GW 1 2	N N N N N N Y Y N N N N N N N N N N N N	Y N N N N N N N Y Y Y N N N N N N N N N	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland
6 7 8 WQ 1 2 3 4 5 6 7 8 9 GW 1 2 3	N N N N N N N N N N N N N N N N N N N	Y N N N N N N N Y Y Y N N N N N N N N N	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland Wetland remains saturated for an extended time period with no additional water inputs
6 7 8 WQ 1 2 3 4 5 6 7 8 9 GW 1 2	N N N N N N Y Y N N N N N N N N N N N N	Y N N N N N N N Y Y Y N N N N N N N N N	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland

WQ-1: Standing wat		e or WI-112 and Visible from road vater from corn field.
Wi	Idlife Habita	at and Species Observation (including amphibians and reptiles)
Lis	st: direct ob	oservation, tracks, scat, other sign; type of habitat: nesting, migratory,
	nter, etc.	
Observed	Potential	Species/Habitat/Comments
	Υ	nded Garden Spider. Potential invertebrate, small mammal, bird habitat for species which ut
	Y	Sonbirds
	L	
_ 		
_ _		
		atic Life Habitat and Species Observations
		oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observed	Potential	Species/Habitat
_ 		
<u> </u>		
	<u> </u>	

Section 1 Comments (Refer to Section 1 numbers)

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	inity intogrity (on olo)			
	Low	Medium	High	Exceptional
Invasive species cover	> 50% 🗸	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
Phalaris arundinacea			PEM	Abundant
Cicuta maculata			PEM	Uncommon
Scirpus cyperinus			PEM	Common
Carex annectens			PEM	Common
Rumex crispus			PEM	Uncommon
Solidago canadensis			PEM	Uncommon
Symphyotrichum lateriflorum			PEM	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

Low floristic integrity due to location within a roadside ditch and dominance by reed canary grass.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
Χ	Х	Х			Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
Х	Х		М	С	Polluted runoff
					Pond construction
	Х		M	С	Agriculture – row crops
	Х		L	С	Agriculture – hay
					Agriculture – pasture
	Х		Н	С	Roads or railroad
	Х		L	С	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
V			B.4	0	Removal of herbaceous stratum – mowing,
X	X		M	С	grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
Х	Х		M	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The wetland is a wet meadow located within a roadside ditch near row crop fields along WI-112. Portions of feature
appear to be mowed.

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity	√				
Human Use Values	√				
Wildlife Habitat	√				
Fish and Aquatic Life Habitat	√				
Shoreline Protection					√
Flood and Stormwater Storage	√				
Water Quality Protection		✓			
Groundwater Processes	√				

FUNCTION	RATIONALE
Floristic Integrity	High invasive species cover, multiple stressors influencing plant community.
Human Use Values	Visible from roadway, low aesthetic value.
Wildlife Habitat	Ditch near roadway with limited species diversity.
Fish and Aquatic Life Habitat	Standing water present likely provides minimal habitat.
Shoreline Protection	
Flood and Stormwater Storage	Ditch receives runoff from row crop fields, roadway, but is sparsely vegetated at points.
Water Quality Protection	Feature likely holds water from farmed field and roadway due to dense vegetation.
Groundwater Processes	Recharge hydrology, densely vegetated.

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: As	hland	Sampling Date: 2019-09-11
•			
Investigator(s): NTT/DGL	Section, Townshi	p, Range: <u>046N-004W-</u>	06
Landform (hillslope, terrace, etc.): Talf			
Subregion (LRR or MLRA): Northcentral Forests			
Soil Map Unit Name: Sanborg-Badriver co			
Are climatic / hydrologic conditions on the site typic	• •	•	
Are Vegetation, Soil, or Hydrology _			
Are Vegetation, Soil, or Hydrology _			
SUMMARY OF FINDINGS – Attach site	e map showing sampling po	int locations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes	No ✓ Is the Sar	npled Area	
	No ✓ within a V	Vetland? Yes	No <u>√</u>
		onal Wetland Site ID:	
Remarks: (Explain alternative procedures here or		ditch footure	
Upland point sampled in a hay fie	iu. Aujacerii io a wellariu	ditorrieature.	
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indic	ators (minimum of two required)
Primary Indicators (minimum of one is required; cl	neck all that apply)	Surface Soi	l Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Pa	atterns (B10)
	Aquatic Fauna (B13)	Moss Trim L	
	Marl Deposits (B15)	•	Water Table (C2)
	Hydrogen Sulfide Odor (C1)	Crayfish Bu	
	Oxidized Rhizospheres on Living		/isible on Aerial Imagery (C9)
1 — · · · · ·	Presence of Reduced Iron (C4)		Stressed Plants (D1)
	Recent Iron Reduction in Tilled S		Position (D2)
	Thin Muck Surface (C7)	Shallow Aqu	raphic Relief (D4)
	Other (Explain in Remarks)		apriic Relier (D4)
Sparsely Vegetated Concave Surface (B8) Field Observations:		FAC-Neutra	ii Test (D5)
	✓ Depth (inches):		
	✓ Depth (inches):		
	✓ Depth (inches):	Wetland Hydrology Prese	nt? Yes No ✓
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring	ng well, aerial photos, previous inspe	ctions), if available:	
Remarks:			
No wetland hydrology indicators v	vere observed.		

VEGETATION – Use scientific names of plants.

				Sampling Point: <u>wasa057_u</u>
Tree Stratum (Plot size: 30')	Absolute % Cover			Dominance Test worksheet:
1		•		Number of Dominant Species That Are OBL, FACW, or FAC:1 (A)
2	- -			Total Number of Dominant
3				Species Across All Strata: (B)
4				Percent of Dominant Species
5	·			That Are OBL, FACW, or FAC: 33.33 (A/B)
6	- ·		.	Prevalence Index worksheet:
7	·			Total % Cover of: Multiply by:
	0.0=	= Total Co	ver	OBL species <u>17.5</u> x 1 = <u>17.5</u>
Sapling/Shrub Stratum (Plot size: 15')				FACW species 0 x 2 = 0
1				FAC species 0 x 3 = 0 FACU species 42.5 x 4 = 170
2			-	UPL species $50 \times 5 = 250$
3				Column Totals: 110 (A) 437.5 (B)
4				
5				Prevalence Index = B/A = 3.98
6			-	Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
	=	= Total Co	ver	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5') 1. Bromus inermis	50	Υ	UPL	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. <u>Trifolium pratense</u>		Y	FACU	Problematic Hydrophytic Vegetation¹ (Explain)
3. <u>Scirpus cyperinus</u>			OBL	
4. <u>Dactylis glomerata</u>			FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <u>Trifolium repens</u>	_	N	FACU	
6. Taraxacum officinale		N	FACU	Definitions of Vegetation Strata:
7. <u>Achillea millefolium</u>		N		Tree – Woody plants 3 in. (7.6 cm) or more in diamete at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9.				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	110 =	= Total Co	ver	height.
Woody Vine Stratum (Plot size:)				
1				
2				
2				Hydrophytic
3				Vegetation
34			- —	Present? Yes No✓_

SOIL Sampling Point: wasa057_u

	ption: (Describe to	the depth				or confirm	the absence of inc	licators.)
Depth _	Matrix			K Features		1 - 2	Taratana	Damada
(inches)	Color (moist)	<u>%</u>	Color (moist)	% 	Type ¹	Loc ²	Texture	Remarks
¹Type: C=Con	centration, D=Deple	etion RM-R	educed Matrix MS	S-Masked	Sand Gra	ains	²l ocation: Pl =	Pore Lining, M=Matrix.
Hydric Soil In		AUDII, NIVIEK	caucea manix, Mc	-iviaskeu	Janu Gla			roblematic Hydric Soils ³ :
Stratified L Depleted E Thick Dark Sandy Mu Sandy Gle Sandy Rec Stripped M Dark Surfa	pedon (A2) ic (A3) Sulfide (A4) Layers (A5) Below Dark Surface ic Surface (A12) cky Mineral (S1) eyed Matrix (S4) dox (S5) Matrix (S6) ace (S7) (LRR R, Mineral Matrix (S6)	 LRA 149B)	Polyvalue Belov MLRA 149B) Thin Dark Surfa Loamy Mucky M Loamy Gleyed M Depleted Matrix Redox Dark Sur Depleted Dark S Redox Depressi	ce (S9) (L flineral (F1 Matrix (F2 (F3) face (F6) Surface (F fions (F8)	.RR R, MI) (LRR K) 7)	.RA 149B) , L)	Coast Prairie 5 cm Mucky Dark Surface Polyvalue Be Thin Dark Su Iron-Mangan Piedmont Flo Mesic Spodie Red Parent I Very Shallow	A10) (LRR K, L, MLRA 149B) Redox (A16) (LRR K, L, R) Peat or Peat (S3) (LRR K, L, R) Re(S7) (LRR K, L) Relow Surface (S8) (LRR K, L) Rese Masses (F12) (LRR K, L, R) Rodplain Soils (F19) (MLRA 149B) Re (TA6) (MLRA 144A, 145, 149B) Material (F21) Material (F21) Material (F21) Material (F21) Material (F21)
Restrictive La	yer (if observed):		_					
	es):						Hydric Soil Prese	ent? Yes No/_
	e not sampled to be non-hyd		•					side area. Soils are



wasa057_u_N



wasa057_u_S

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2019-10-0
Applicant/Owner: Enbridge State: WI Sampling Point: wasa056s_
Investigator(s): ARK/MAL Section, Township, Range: 046N-004W-06
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.487205 Long: -90.909011 Datum: WGS84
Soil Map Unit Name: Sanborg-Badriver complex, 0 to 6 percent slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes /_ No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed?
Are Vegetation, Soil, or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes✓ No Is the Sampled Area
Hydric Soil Present? Yes _ ✓ No within a Wetland? Yes _ ✓ No
Wetland Hydrology Present? Yes ✓ No If yes, optional Wetland Site ID:
Remarks: (Explain alternative procedures here or in a separate report.)
Classified as a Shrub-Carr in the Cowarding system due to the size of the aspen. Located between a farm field road right-of-way and a hay field.
a familield foad right-of-way and a flay field.
HYDROLOGY
Wetland Hydrology Indicators: Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained Leaves (B9) Drainage Patterns (B10)
High Water Table (A2) Aquatic Fauna (B13) Moss Trim Lines (B16)
Saturation (A3) Marl Deposits (B15) Dry-Season Water Table (C2)
Water Marks (B1)
Drift Deposits (B3)
Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3)
Indit Deposits (D5) Thirr Midek Outlade (O7) Orland Waquitate (D5)
Sparsely Vegetated Concave Surface (B8) FAC-Neutral Test (D5)
Field Observations:
Surface Water Present? Yes No✓ Depth (inches):
Water Table Present? Yes No _✓ Depth (inches):
Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes / No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Describe Recorded Data (Stream gauge, monitoring well, aerial priotos, previous inspections), il available.
Remarks:
Seasonally saturated recharge wetland.

VEGETATION – Use scientific names of plants.

				Sampling Point: wasa056s_v
Tree Stratum (Plot size:30')	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
1. <u>Populus tremuloides</u>				Number of Dominant Species That Are OBL, FACW, or FAC:5 (A)
2. Acer rubrum				
3.				Total Number of Dominant Species Across All Strata:
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	_25	= Total Co	ver	OBL species10 x 1 =10
Sapling/Shrub Stratum (Plot size: 15')				FACW species62 x 2 =124
1. <u>Cornus alba</u>	25	Y	<u>FACW</u>	FAC species <u>35</u> x 3 = <u>105</u>
2. <u>Populus tremuloides</u>	10	Y	FAC	FACU species <u>5</u> x 4 = <u>20</u>
3. <i>Ilex verticillata</i>	5	N	<u>FACW</u>	UPL species $0 \times 5 = 0$ Column Totals: 112×6 (A) 259×6 (B)
4. <u>Rubus allegheniensis</u>	5	N	<u>FACU</u>	
5				Prevalence Index = B/A = 2.31
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	45	= Total Co	ver	✓ 2 - Dominance Test is >50%
Herb Stratum (Plot size: 5')				 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting
1. <i>Phalaris arundinacea</i>	25	Y	<u>FACW</u>	data in Remarks or on a separate sheet)
2. <u>Solidago gigantea</u>	5	N	<u>FACW</u>	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Scirpus cyperinus</u>	5	N	OBL	The discrete of budgle and configured budgets on a conf
4. Calamagrostis canadensis	5	N	OBL	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <u>Poa palustris</u>	2	N	<u>FACW</u>	Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8		-		Sapling/shrub – Woody plants less than 3 in. DBH
9		-		and greater than or equal to 3.28 ft (1 m) tall.
10		-		Herb - All herbaceous (non-woody) plants, regardless
11		-		of size, and woody plants less than 3.28 ft tall.
12		-		Woody vines – All woody vines greater than 3.28 ft in
	42	= Total Co	ver	height.
Woody Vine Stratum (Plot size:30')				
1				
2				
3		-		Hydrophytic
				Vegetation Present? Yes No
4				

SOIL Sampling Point: wasa056s_w

	cription: (D	escribe	to the dep	th needed	to docun	nent the ir	ndicator	or confirm	the absence	e of indicators.)
Depth (inches)	Color (n	Matrix	%	Color (r		x Features %	Type ¹	Loc ²	Texture	Remarks
0-4	7.5YR		100	(1	Holoty		C	M	С	Nomano
4-18	7.5YR	5/2	80	5YR	5/8	20	С	M	SC	Prominent redox
¹ Type: C=C Hydric Soil	oncentration Indicators:	, D=Dep	letion, RM	=Reduced I	Matrix, MS	S=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils ³ :
Black H Hydroge Stratifie Deplete Thick D Sandy N Sandy F Stripped	pipedon (A2) listic (A3) en Sulfide (A d Layers (A5 d Below Dar eark Surface of Mucky Minera Gleyed Matrix Redox (S5) d Matrix (S6) urface (S7) (L	4) i) k Surface (A12) al (S1) x (S4)		Thin D Loamy Loamy Deplet Redox Deplet Redox	y Mucky N y Gleyed I ted Matrix v Dark Su	ce (S9) (L dineral (F1 Matrix (F2) (F3) face (F6) Surface (F) (LRR K	_RA 149B) , L)	5 cm I Dark \$ Polyva Thin E Iron-M Piedm Mesic Red P Very \$	Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L) alue Below Surface (S8) (LRR K, L) Dark Surface (S9) (LRR K, L) Manganese Masses (F12) (LRR K, L, R) nont Floodplain Soils (F19) (MLRA 149B) Spodic (TA6) (MLRA 144A, 145, 149B) Parent Material (F21) Shallow Dark Surface (TF12) (Explain in Remarks)
	of hydrophytic	_		etland hydro	ology mus	t be prese	nt, unles	disturbed	or problemati	C.
Type:	Layer (II Ob	sei veu).								
	nches):								Hydric Soil	I Present? Yes No
Remarks: Clay with	h redox i	n the	lower la	ayer.						



wasa056s_w_N



wasa056s_w_S

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION		
Project name: Line 5 Relocation Project	Evaluator(s): MAL/NTT/DGL	
File #: wasa056	Date of visit(s): 09/11/2019	
Location: PLSS: <u>046N-004W-06</u>	Ecological Landsca Superior Coastal Plain	ape:
Lat: 46.486603 Long: -90.909042	Watershed: LS10 White River	
County: Ashland Town/City/Village: White River town		
SITE DESCRIPTION		
Soils: Mapped Type(s):	WWI Class:	
580B, Sanborg-Badriver complex, 0 to 6 percent slopes Field Verified:	Wetland Type(s): PSS - Shrub Carr	
Series not verified. The soils consist of a clay over a sandy clay.	Wetland Size: 0.46	Wetland Area Impacted 0.46
	Vegetation: Plant Community D	Description(s):
Hydrology: Saturated hydrologic regime, recharge hydrology. Hydrophytic vegetation present.	Shrub community dominated by red-osier dogwood with regenerating quaking aspen and understory dominated by reed canary grass dominated.	

SITE MAP		

SECTION 1: Functional Value Assessment

			Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
_			In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	- ' '	- 11	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	Y	Y	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N		100 m buffer – natural land cover >50%(south) 75% (north) intact
5		N	Occurs in a Joint Venture priority township
6	N	N	
0	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	N	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present > 45 days
10	N	N	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	N	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Y	Vegetation is inundated in spring
SP			Shoreline Protection
1	NA	NA	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	NA	NA	water levels or high flows – if no, not applicable
3	NA	NA	Densely rooted emergent or woody vegetation
ST	INA	INA	Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Y	Y	Water flow through wetland is NOT channelized
3	Y	Y	Dense, persistent vegetation
—	<u> </u>		
4	N	N	Evidence of flashy hydrology
5	N	N	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with ≤10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	N	N	Provides substantial storage of storm and floodwater based on previous section
2			
	N	N	Basin wetland or constricted outlet
3	Υ	Υ	Water flow through wetland is NOT channelized
4	Y N	Y N	Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream
4 5	Υ	Υ	Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation
4	Y N	Y N	Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
4 5	Y N Y	Y N Y	Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation
4 5 6	Y N Y N	Y N Y N	Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
4 5 6 7	Y N Y N	Y N Y N	Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source
4 5 6 7 8 9	Y N Y N N	Y N Y N N	Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water
4 5 6 7 8 9 GW	Y N Y N N N	Y N Y N N Y	Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes
4 5 6 7 8 9 GW	Y N Y N N N	Y N Y N N N N N N	Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present
4 5 6 7 8 9 GW 1 2	Y N Y N N N N N N N	Y N Y N N N N N N N	Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland
4 5 6 7 8 9 GW 1 2 3	Y N Y N N N N N N N	Y N Y N N N N N N N N N N N N N N N N N	Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland Wetland remains saturated for an extended time period with no additional water inputs
4 5 6 7 8 9 GW 1 2	Y N Y N N N N N N	Y N Y N N N N N N N	Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland

14/:		et and Charles Observation (including anothic including
vvi Lis	idilite Habita st: direct of	at and Species Observation (including amphibians and reptiles) servation, tracks, scat, other sign; type of habitat: nesting, migratory,
wi	nter, etc.	
bserved	Potential	Species/Habitat/Comments
	Υ	Potential songbird, mammal, invertebrate habitat.
Fig	sh and Adua	ntic Life Habitat and Species Observations
Fis Lis	sh and Aqua st: direct ob	atic Life Habitat and Species Observations oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Lis	st: direct ob	oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Lis	st: direct ob	stic Life Habitat and Species Observations oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Species/Habitat
Lis	st: direct ob	oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Lis	st: direct ob	oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
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Lis	st: direct ob	oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Lis	st: direct ob	oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Fis Lis	st: direct ob	oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.

Section 1 Comments (Refer to Section 1 numbers)
WH-8: Relatively isolated feature buffered by pasture. HU-3: Visually accessible from roadway.

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%√	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4/	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Populus tremuloides			PSS	Common
Acer rubrum			PSS	Uncommon
Cornus alba			PSS	Common
llex verticillata			PSS	Uncommon
Rubus allegheniensis			PSS	Uncommon
Phalaris arundinacea			PSS	Common
Solidago gigantea			PSS	Uncommon
Scirpus cyperinus			PSS	Uncommon
Calamagrostis canadensis			PSS	Uncommon
Poa palustris			PSS	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

Feature dominated by quaking aspen, American elm, alder, reed canary grass, bluejoint, giant goldenrod.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
Х	Х		L	С	Agriculture – hay
					Agriculture – pasture
	Х		M	С	Roads or railroad
	Х		L	С	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
				0	Removal of herbaceous stratum – mowing,
	X		L	С	grading, earthworms, etc.
	V			0	Removal of tree or shrub strata – logging,
	X		L	С	unprescribed fire
					Human trails – unpaved
					Human trails – paved
	Х		L	С	Removal of large woody debris
Х	Х		Н	С	Cover of non-native and/or invasive species
	Х		L	С	Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

Located between a driveway and hay	field.		

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION	SIGNIFICANCE						
	Low	Medium	High	Exceptional	NA		
Floristic Integrity		✓					
Human Use Values	√						
Wildlife Habitat		✓					
Fish and Aquatic Life Habitat	√						
Shoreline Protection					√		
Flood and Stormwater Storage	√						
Water Quality Protection		√					
Groundwater Processes	√						

FUNCTION	RATIONALE
Floristic Integrity	Three strata present, overall dominated by native species
Human Use Values	Low recreational and aesthetic value
Wildlife Habitat	Three strata present with dense vegetation and moderate diversity
Fish and Aquatic Life Habitat	No standing water in this feature
Shoreline Protection	N/A
Flood and Stormwater Storage	Densely vegetated, potentially receives runoff from surrounding mowed fields
Water Quality Protection	Feature is not well buffered and does not have surface water
Groundwater Processes	Recharge hydrology, densely vegetated

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	nland	Sampling Date: <u>2019-09-10</u>
Applicant/Owner: Enbridge			
Investigator(s): BRG/JSW	Section, Township	, Range: 046N-004W-	-06
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.4			
Soil Map Unit Name: Sanborg-Badriver complex,			
Are climatic / hydrologic conditions on the site typical for this ti			
Are Vegetation, Soil, or Hydrology sign			
Are Vegetation, Soil, or Hydrology nate	urally problematic? ((If needed, explain any answ	vers in Remarks.)
SUMMARY OF FINDINGS – Attach site map sh	lowing sampling poi	nt locations, transect	ts, important features, etc.
Hydrophytic Vegetation Present? Yes ✓ No Hydric Soil Present? Yes ✓ No Wetland Hydrology Present? Yes ✓ No Remarks: (Explain alternative procedures here or in a separative procedures)	within a Wo	pled Area etland? Yes✓ nal Wetland Site ID:	
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indi	cators (minimum of two required)
Primary Indicators (minimum of one is required; check all that	t apply)	Surface So	
Surface Water (A1) Water-	Stained Leaves (B9)	Drainage P	Patterns (B10)
High Water Table (A2) Aquation	c Fauna (B13)	Moss Trim	Lines (B16)
	eposits (B15)		n Water Table (C2)
	gen Sulfide Odor (C1)		urrows (C8)
	ed Rhizospheres on Living I		Visible on Aerial Imagery (C9)
	nce of Reduced Iron (C4) t Iron Reduction in Tilled So		Stressed Plants (D1)
	luck Surface (C7)	Shallow Ac	
	(Explain in Remarks)		graphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		✓ FAC-Neutral	
Field Observations:			
Surface Water Present? Yes _ ✓ No Depth			
Water Table Present? Yes No _ ✓ Depth	, ,		
Saturation Present? Yes No✓ Depth (includes capillary fringe)	(inches):	Wetland Hydrology Prese	ent? Yes <u>√</u> No
Describe Recorded Data (stream gauge, monitoring well, aer	rial photos, previous inspect	tions), if available:	
Remarks:			
The hydrologic regime is saturated, and t	the wetland exhibit	s recharge hydrolo	gy. The wetland
collects stormwater runoff from the adjac	ent crop fields and	I gravel/paved road	ds.
I .			l

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')		Dominant Species?		Dominance Test worksheet:
		-		Number of Dominant Species
1				That Are OBL, FACW, or FAC: 4.0 (A)
3				Total Number of Dominant Species Across All Strata: 4.0 (B)
4.				Percent of Dominant Species
5.				That Are OBL, FACW, or FAC: 100.0 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
		= Total Co	ver	OBL species <u>40.0</u> x 1 = <u>40.0</u>
Sapling/Shrub Stratum (Plot size:)				FACW species <u>44.0</u> x 2 = <u>88.0</u>
1. Salix bebbiana	5.0	Υ	FACW	FAC species 3.0 x 3 = 9.0
2. Salix petiolaris				FACU species15.0 x 4 =60.0
3.				UPL species 0.0 x 5 = 0.0
4.				Column Totals:102.0 (A)197.0 (B)
5.				Prevalence Index = B/A =1.9
6.				Hydrophytic Vegetation Indicators:
7			· 	
		= Total Co	ver	2 - Dominance Test is >50%
Herb Stratum (Plot size:5')		- Total Co	VCI	3 - Prevalence Index is ≤3.0¹
	30.0	V	FACW	4 - Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)
Solidago gigantea Carex cf. pellita			OBL	Problematic Hydrophytic Vegetation¹ (Explain)
•		N	FACU	resistance ryurophyno vegetanen (Explan)
3. <u>Poa pratensis</u>				¹ Indicators of hydric soil and wetland hydrology must
4. <u>Juncus effusus</u>		_N_	OBL	be present, unless disturbed or problematic.
5. <u>Phalaris arundinacea</u>		N	FACW	Definitions of Vegetation Strata:
6. Lotus corniculatus	5.0	_N_	FACU	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7. Rumex crispus		_N_	FAC	at breast height (DBH), regardless of height.
8. Symphyotrichum lanceolatum			FACW	Sapling/shrub – Woody plants less than 3 in. DBH
9. <u>Symphyotrichum lateriflorum</u>	1.0	<u>N</u>	<u>FAC</u>	and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11			·	
12			·	Woody vines – All woody vines greater than 3.28 ft in height.
	95.0	= Total Co	ver	
Woody Vine Stratum (Plot size: 30')				
1			·	
2				
3				Hydrophytic
4				Vegetation Present? Yes ✓ No
		= Total Co	ver	
Remarks: (Include photo numbers here or on a separate s		me are	as of the	wetland is more prevalent than at the

Cover of invasive species is variable, and in some areas of the wetland is more prevalent than at the sample point. Some vegetation on the edge of the wetland bordering the gravel road is mowed.

Sampling Point: wasc001e_w

SOIL Sampling Point: wasc001e_w

Profile Description: (Des	cribe to the dep				or confirm	the absence of inc	dicators.)
	atrix		x Features		1 - 2	Taratan	Description
(inches) Color (mo	ist) %	Color (moist)	% 	Type'	Loc ²	Texture	Remarks
			· ——				
¹ Type: C-Concentration F	Deplotion PM	- Dodugod Matrix, MS	- Maskad	Sand Cre		² Location: DL-	Poro Lining M-Motriy
¹ Type: C=Concentration, E Hydric Soil Indicators:	z=Depletion, RM	=neuuceu Mainx, Mc	=iviaSKe0	Sand Gra	.61118		Pore Lining, M=Matrix. roblematic Hydric Soils ³ :
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark S Thick Dark Surface (A' Sandy Mucky Mineral Sandy Gleyed Matrix (Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LR	12) (S1) S4) R R, MLRA 1491 egetation and we		nace (S9) (L Mineral (F1 Matrix (F2) (F3) rface (F6) Surface (F ions (F8)	RR R, MI) (LRR K)	.RA 149B) , L)	2 cm Muck (Coast Prairie 5 cm Mucky Dark Surface Polyvalue Be Thin Dark St Iron-Mangar Piedmont Fle Mesic Spodi Red Parent I Very Shallov Other (Explain	A10) (LRR K, L, MLRA 149B) Per Redox (A16) (LRR K, L, R) Peat or Peat (S3) (LRR K, L, R) Pe (S7) (LRR K, L) Pelow Surface (S8) (LRR K, L) Per Rese Masses (F12) (LRR K, L, R) Per Rese Masses (F19) (MLRA 149B) Per (TA6) (MLRA 144A, 145, 149B) Material (F21) Per Dark Surface (TF12) Unin in Remarks)
Type:	<u>, </u>					Hydric Soil Prese	ent? Yes✓_ No
Remarks:	sampled d	ue to the proxi					thin the roadside ditch.



wasc001e_w_E



wasc001e_w_W

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project	Evaluator(s): BRG/JSW		
File #: wasc001	Date of visit(s): 09/10/2019		
Location: PLSS: 046N-004W-07	Ecological Landsca Superior Coastal Palin	ape:	
Lat: <u>46.486172</u> Long: <u>-90.906648</u>	Watershed: LS10, White River		
County: Ashland Town/City/Village: White River town			
SITE DESCRIPTION			
Soils: Mapped Type(s):	WWI Class:		
580B Sanborg-Badriver complex 0 to 6 percent slopes Field Verified:	Wetland Type(s): PEM - fresh wet meadow		
The soils were not sampled due to the proximity of potential buried utilities.	Wetland Size: 0.12	Wetland Area Impacted 0.12	
Hydrology: The wetland is seasonally saturated and is fed by runoff from the adjacent roads and crop fields, with recharge hydrology.		Description(s): unity of the wetland is a Fresh eminated by weedy species.	

SITE MAP		

SECTION 1: Functional Value Assessment

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Ν	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
	- ' '	- 11	In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	IN	111	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3	N	N N	Within or adjacent to habitat corridor or established wildlife habitat area
4			100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	N	N	
-	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	N	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present > 45 days
10	N	N	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	Ν	N	Wetland is connected or contiguous with perennial stream or lake
2	Ν	N	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	NA	NA	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	NA	NA	water levels or high flows – if no, not applicable
3	NA	NA	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	N	N	Water flow through wetland is NOT channelized
3	Y	Y	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	Y	Y	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with <10% wetland
8	N	N N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ	IN	IN	Water Quality Protection
1	1		
	\ <u>/</u>	\ <u>/</u>	
	Y	Y	Provides substantial storage of storm and floodwater based on previous section
2	Υ	Υ	Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet
3	Y N	Y N	Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized
2 3 4	Y N N	Y N N	Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream
2 3 4 5	Y N N Y	Y N N Y	Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation
2 3 4 5 6	Y N N Y	Y N N Y	Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
2 3 4 5 6 7	Y N N Y N	Y N N Y N	Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source
2 3 4 5 6 7 8	Y N N Y N N	Y N N Y N N	Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water
2 3 4 5 6 7 8 9	Y N N Y N	Y N N Y N	Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50%
2 3 4 5 6 7 8	Y N N Y N N	Y N N Y N N	Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water
2 3 4 5 6 7 8 9	Y N N Y N N	Y N N Y N N	Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50%
2 3 4 5 6 7 8 9 GW	Y N N Y N N Y	Y N N Y N N Y N N N N Y	Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present
2 3 4 5 6 7 8 9 GW 1 2	Y N N Y N N Y N	Y N N Y N N N N N N N N N N N	Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland
2 3 4 5 6 7 8 9 GW 1 2 3	Y N N Y N N N N N N N N N N N N N N N N	Y N N Y N N N N N N N N N N N N N N N N	Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland Wetland remains saturated for an extended time period with no additional water inputs
2 3 4 5 6 7 8 9 GW 1 2	Y N N Y N N Y N	Y N N Y N N N N N N N N N N N	Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland

		nments (Refer to Section 1 numbers)
HU-3: located adjace saturation.	ent to a road. ST-5: w	retland receives runoff from the adjacent road and agricultural field. GW-8: wetland is a shallow ditch feature with no evidence of extended periods of
Wi	Idlife Habita	at and Species Observation (including amphibians and reptiles)
		oservation, tracks, scat, other sign; type of habitat: nesting, migratory,
WII	nter, etc.	
Observed	Potential	Species/Habitat/Comments
0000.700	1 Otomical	oposios/Habitat ooilillionto
Fis	sh and Aqua	atic Life Habitat and Species Observations
Lis	st: direct ob	oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observed	Potential	Species/Habitat

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

Train Community intogrey (Circle)								
	Low	Medium	High	Exceptional				
Invasive species cover	> 50%	20-50%	10-20%	<10%				
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented				
NHI plant community ranking	S4	S3	S2	S1-S2 (S2 high quality)				
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare				
FQI (optional)	<13	13-23	23-32	>32				
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7				

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Salix bebbiana			PEM	Uncommon
Salix petiolaris			PEM	Uncommon
Solidago gigantea			PEM	Common
Carex pellita			PEM	Common
Poa pratensis			PEM	Uncommon
Juncus effusus			PEM	Uncommon
Phalaris arundinacea			PEM	Uncommon
Lotus corniculatus			PEM	Uncommon
Rumex crispus			PEM	Uncommon
Symphyotrichum lateriflorum			PEM	Uncommon
Symphyotrichum lanceolatum			PEM	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The floristic integrity is low with some weedy invasives being common throughout the wetland.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
Х	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
	Х		M	С	Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
Х	Х		L	С	Roads or railroad
Х	Х		L	С	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
V				0	Removal of herbaceous stratum – mowing,
X	X	(H	С	grading, earthworms, etc.	
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
	Х		L	С	Removal of large woody debris
Х	Х		М	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The wetland is a low-quality feature heavily impacted by various landscape alterations caused by farming and roads.
The feature is likely an artificial wetland created by these circumstances.

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity	√				
Human Use Values	√				
Wildlife Habitat	√				
Fish and Aquatic Life Habitat	√				
Shoreline Protection					1
Flood and Stormwater Storage		/			
Water Quality Protection		√			
Groundwater Processes	√				

FUNCTION	RATIONALE
Floristic Integrity	High prevalence of invasives and weedy species
Human Use Values	No connected waterbody or pleasing features
Wildlife Habitat	Low songbird or wildlife habitat potential
Fish and Aquatic Life Habitat	No frequent standing water
Shoreline Protection	N/A
Flood and Stormwater Storage	Absorbs runoff from crop fields and roads
Water Quality Protection	Absorbs runoff, dense vegetation
Groundwater Processes	No significant groundwater processes aside from recharge

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: As	hland	Sampling Date: 2019-09-10		
•	State: WI Sampling Point: wasc001				
<u> </u>	Section, Township, Range: 046N-004W-07				
Landform (hillslope, terrace, etc.): Talf					
Subregion (LRR or MLRA): Northcentral Forests L					
Soil Map Unit Name: Sanborg-Badriver co					
Are climatic / hydrologic conditions on the site typica					
Are Vegetation ✓, Soil, or Hydrology _					
Are Vegetation, Soil, or Hydrology _					
SUMMARY OF FINDINGS – Attach site	map showing sampling po	int locations, transects	s, important features, etc.		
Hydrophytic Vegetation Present? Yes	No ✓ Is the San	npled Area			
	No <u>√</u> within a W	Vetland? Yes	No <u>√</u>		
Wetland Hydrology Present? Yes		onal Wetland Site ID:	_		
Remarks: (Explain alternative procedures here or					
The upland is located in an active	pianteu com neiu.				
HYDROLOGY					
Wetland Hydrology Indicators:		<u> </u>	ators (minimum of two required)		
Primary Indicators (minimum of one is required; ch					
	Water-Stained Leaves (B9)	Drainage Pa			
	Aquatic Fauna (B13)	Moss Trim Lines (B16) Dry-Season Water Table (C2)			
	Marl Deposits (B15) Hydrogen Sulfide Odor (C1)		· · ·		
	Oxidized Rhizospheres on Living	Crayfish Bu Roots (C3) Saturation \	/isible on Aerial Imagery (C9)		
	Oxidized Knizospheres on Elving Presence of Reduced Iron (C4)		Stressed Plants (D1)		
1 - · · · · · · · -	Recent Iron Reduction in Tilled S		Position (D2)		
Iron Deposits (B5)	uitard (D3)				
	aphic Relief (D4)				
Sparsely Vegetated Concave Surface (B8)	Other (Explain in Remarks)	· -	Il Test (D5)		
Field Observations:			,		
Surface Water Present? Yes No	/ Depth (inches):				
Water Table Present? Yes No	/ Depth (inches):				
	/ Depth (inches):	Wetland Hydrology Prese	nt? Yes No/_		
(includes capillary fringe) Describe Recorded Data (stream gauge, monitorin	ng well, aerial photos, previous inspec	 ctions), if available:			
		,,			
Daniela					
Remarks: No indicators of wetland hydrology	v were observed				
The indicators of Welland Hydrology	, word about vod.				

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:30')	Absolute Dominant Indicator Species? Status	Dominance Test worksheet: Number of Dominant Species
1		That Are OBL, FACW, or FAC: 0.0 (A)
3.		Total Number of Dominant Species Across All Strata: 1.0 (B)
4		Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)
5		,
6		Prevalence Index worksheet:
	= Total Cover	OBL species x 1 = 0.0
Sapling/Shrub Stratum (Plot size: 15')		FACW species 0.0 $x = 0.0$ FAC species 0.0 $x = 0.0$
1		FACU species 1.0 x 4 = 4.0
2. 3.		UPL species 0.0 x 5 = 0.0
4.		Column Totals:(A)(B)
5		Prevalence Index = B/A = 4.0
6		Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation
7	= Total Cover	2 - Dominance Test is >50%
Herb Stratum (Plot size:5')		3 - Prevalence Index is ≤3.0¹
1. Zea mays	90.0 Y NI	 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
2. Taraxacum officinale		Problematic Hydrophytic Vegetation ¹ (Explain)
3		¹ Indicators of hydric soil and wetland hydrology must
4. 5.		be present, unless disturbed or problematic.
6.		Definitions of Vegetation Strata:
7		Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8		Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
9		Herb – All herbaceous (non-woody) plants, regardless
11.		of size, and woody plants less than 3.28 ft tall.
12		Woody vines – All woody vines greater than 3.28 ft in height.
Week 1 1/2 - Out 1		
Woody Vine Stratum (Plot size:30') 1		
2.		
3		Hydrophytic
4		Vegetation Present? Yes No✓_
Remarks: (Include photo numbers here or on a separate	= Total Cover	
The upland is a planted corn field.	sneet.)	

Sampling Point: wasc001_u

SOIL Sampling Point: wasc001_u

Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Texture Remarks	Profile Desc	ription: (Describe to t	he depth ne	eded to docum	ent the in	dicator o	or confirm	the absence of	f indicators.)
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Hydric Soil Indicators: Histosol (A1) Histosol (A2) Histosol (A2) Histosol (A2) Histosol (A2) Histosol (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Loamy Mucky Mineral (F1) (LRR K, L) Depleted Below Dark Surface (A12) Depleted Below Dark Surface (A12) Depleted Matrix (F2) Depleted Below Dark Surface (A12) Thick Dark Surface (A12) Radox Dark Surface (F7) Find-Man Grains (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Dark Surface (F7) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Dark Surface (F7) Pine-Mont Floodplain Soils (F19) (MLRA 149B) Sandy Gleyed Matrix (S6) Sitipped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Pine-Mont Floodplain Soils (F19) (MLRA 149B) Pine-Mont Floodplain Soils (F19) (MLRA 149B) Thin Surface (S7) (LRR R, MLRA 149B) Pine-Mont Floodplain Soils (F19) (MLRA 149B) Pine-Mont Fl						-	. 2		
Hydric Soil Indicators: Histosol (A1)	(inches)	Color (moist)	<u>% C</u>	olor (moist)		Type'	Loc ²	Texture	Remarks
Hydric Soil Indicators: Histosol (A1)									
Hydric Soil Indicators: Histosol (A1)									
Hydric Soil Indicators: Histosol (A1)									
Histosol (A1)			on, RM=Redu	uced Matrix, MS	=Masked	Sand Gra	ins.		
The soils were not sampled due to the potential for buried utilities. The soils are assumed to be	Histosol Histic Ep Black Hi Hydroge Stratified Depleted Thick Da Sandy M Sandy G Sandy R Stripped Dark Su Restrictive I Type:	(A1) pipedon (A2) stic (A3) n Sulfide (A4) d Layers (A5) d Below Dark Surface (A ark Surface (A12) ducky Mineral (S1) fileyed Matrix (S4) dedox (S5) Matrix (S6) frace (S7) (LRR R, MLR f hydrophytic vegetation Layer (if observed):		MLRA 149B) Thin Dark Surface Loamy Mucky M Loamy Gleyed M Depleted Matrix Redox Dark Surf Depleted Dark S Redox Depression	ce (S9) (LI ineral (F1) flatrix (F2) (F3) face (F6) furface (F7) ons (F8)	RR R, ML (LRR K,	RA 149B) L)	2 cm Mi Coast P 5 cm Mi Dark Su Polyvalu Thin Da Iron-Mai Piedmoi Mesic S Red Pai Very Sh Other (E	uck (A10) (LRR K, L, MLRA 149B) rairie Redox (A16) (LRR K, L, R) ucky Peat or Peat (S3) (LRR K, L, R) uface (S7) (LRR K, L) ue Below Surface (S8) (LRR K, L) rk Surface (S9) (LRR K, L) nganese Masses (F12) (LRR K, L, R) nt Floodplain Soils (F19) (MLRA 149B) podic (TA6) (MLRA 144A, 145, 149B) tent Material (F21) allow Dark Surface (TF12) explain in Remarks)
	The soils						d utilitie	s. The soi	Is are assumed to be



wasc001_u_E



wasc001_u_W

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	nland	Sampling Date: 2019-09-10		
Applicant/Owner: Enbridge					
Investigator(s): BRG/JSW	Section, Township	, Range: 046N-004W-	07		
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%					
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.4					
Soil Map Unit Name: Sanborg-Badriver complex,					
Are climatic / hydrologic conditions on the site typical for this til					
Are Vegetation, Soil, or Hydrology sign					
Are Vegetation, Soil, or Hydrology nate	urally problematic? ((If needed, explain any answe	ers in Remarks.)		
SUMMARY OF FINDINGS – Attach site map sh	lowing sampling poi	nt locations, transects	s, important features, etc.		
Hydrophytic Vegetation Present? Yes✓ No _	Is the Sam	pled Area			
Hydric Soil Present? Yes ✓ No	within a W.	etland? Yes <u>√</u>	No		
Wetland Hydrology Present? Yes ✓ No		onal Wetland Site ID:			
Remarks: (Explain alternative procedures here or in a separa	rate report.)				
The wetland is a fresh wet meadow runni	0	• •	eld. The wetland		
receives precipitation runoff from this field	d and the nearby p	aved road.			
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary Indic	ators (minimum of two required)		
Primary Indicators (minimum of one is required; check all that	t apply)	Surface Soi	l Cracks (B6)		
	Stained Leaves (B9)	✓ Drainage Patterns (B10)			
	c Fauna (B13)	Moss Trim L			
	eposits (B15)		Water Table (C2)		
	gen Sulfide Odor (C1)	Crayfish Bu			
	ed Rhizospheres on Living F		/isible on Aerial Imagery (C9)		
	nce of Reduced Iron (C4) t Iron Reduction in Tilled So		Stressed Plants (D1)		
Iron Deposits (B5)					
Sparsely Vegetated Concave Surface (B8)	LAPIGIT III Nomano,	Microtopogr			
Field Observations:		<u> </u>	11 1001 (150)		
Surface Water Present? Yes No ✓ Depth	ı (inches):	İ			
Water Table Present? Yes No _✓ Depth		İ			
Saturation Present? Yes No Depth		Wetland Hydrology Prese	nt? Yes <u>√</u> No		
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aer		tions) if evallable:	_		
Describe Recorded Data (stream gauge, monitoring weil, act	Tal photos, previous inspect	lions), ii avaliable.			
Remarks:		. (
The hydrologic regime is saturated, and t					
road and another culvert under a compac					
southern side of the wetland, and although	gh the wetland has	some recharge tur	nctionality, it also		
discharges into this stream.					

VEGETATION – Use scientific names of plants.

	Absolute	Dominan	t Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30')	% Cover	Species?	Status	
1				Number of Dominant Species That Are OBL, FACW, or FAC:1.0 (A)
2				
3.				Total Number of Dominant Species Across All Strata: 1.0 (B)
				` ` '
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)
5				10010 (11)
6				Prevalence Index worksheet:
7		-		Total % Cover of: Multiply by:
	0.0	= Total Co	ver	OBL species1.0 x 1 =1.0
Sapling/Shrub Stratum (Plot size:)				FACW species <u>86.0</u> x 2 = <u>172.0</u>
1				FAC species <u>6.0</u> x 3 = <u>18.0</u>
2				FACU species 2.0 x 4 = 8.0
3				UPL species <u>0.0</u> x 5 = <u>0.0</u>
4.				Column Totals: <u>95.0</u> (A) <u>199.0</u> (B)
5				Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
				✓ 1 - Rapid Test for Hydrophytic Vegetation
7				∠ 2 - Dominance Test is >50%
-1	0.0	= Total Co	ver	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5') 1. Phalaris arundinacea	85.0	Υ	FACW	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Equisetum arvense		N	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
•				
3. Rumex crispus		_N_	FAC	¹ Indicators of hydric soil and wetland hydrology must
4. <u>Trifolium repens</u>		N	<u>FACU</u>	be present, unless disturbed or problematic.
5. <u>Setaria pumila</u>	2.0	N	<u>FAC</u>	Definitions of Vegetation Strata:
6. <i>Impatiens capensis</i>	1.0	N	<u>FACW</u>	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7. <u>Cicuta maculata</u>	1.0	N	OBL	at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11			-	of size, and woody plants less than 3.28 ft tall.
			-	Woody vines – All woody vines greater than 3.28 ft in
12.				height.
	95.0	= Total Co	ver	
Woody Vine Stratum (Plot size: 30')				
1				
2			<u> </u>	
3				Hydrophytic
4				Vegetation Present? Yes No
	0.0	= Total Co	ver	Tresent: Tes No
Remarks: (Include photo numbers here or on a separate s	sheet.)			
The wetland is dominated by a thick ma				
are present in small marginal areas on	the edg	e of the	wetland	d, where soil has been disturbed by
tilling.				

Sampling Point: wasc002e_w

SOIL Sampling Point: wasc002e_w

			o the dep	oth needed				or confirm	the absence	of indicators.)
Depth (inches)	Color (m	Matrix noist)	%	Color (n		x Features	s Type ¹	Loc ²	Texture	Remarks
0-5	<u>10YR</u>	3/2	95	7.5YR	5/6	_5	<u>C</u>	_M_	CL	
5-18	10YR	6/1	85	5YR	5/6	15	С	M	C	
								-		
¹ Type: C=Ce		, D=Deple	etion, RM	=Reduced N	Matrix, MS	3=Masked	I Sand Gr	ains.		: PL=Pore Lining, M=Matrix.
Hydric Soil Histosol				Polyac	duo Bolov	w Surface	(S9) (I DI	D D		for Problematic Hydric Soils ³ : Muck (A10) (LRR K, L, MLRA 149B)
·	oipedon (A2)				RA 149B)		(30) (LIVI	χ ix,		Prairie Redox (A16) (LRR K, L, R)
Black Hi	, ,	4)						LRA 149B)		Mucky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A d Layers (A5					/lineral (F1 Matrix (F2		., L)		Surface (S7) (LRR K, L) Ilue Below Surface (S8) (LRR K, L)
Depleted	d Below Dark	k Surface	(A11)	Deplet	ed Matrix	(F3)			Thin D	ark Surface (S9) (LRR K, L)
	ark Surface (lucky Minera					rface (F6) Surface (F				anganese Masses (F12) (LRR K, L, R) ont Floodplain Soils (F19) (MLRA 149B)
	Bleyed Matrix				Depress		7)			Spodic (TA6) (MLRA 144A, 145, 149B)
Sandy R	Redox (S5)									arent Material (F21)
	l Matrix (S6) rface (S7) (L	RRR M	Ι ΡΔ 140	R)						hallow Dark Surface (TF12) (Explain in Remarks)
Dark ou	nace (O7) (E		LIVA 143	J)					Other (Explain in Nomano)
		-	on and w	etland hydro	ology mus	t be prese	ent, unles	s disturbed	or problemation	<u>;. </u>
Restrictive I	Layer (IT obs	servea):								
'' -	ches):								Hydric Soil	Present? Yes _ ✓ No
Remarks:	ones)									
Depleted	l clay be	low da	rk cla	y loam v	vith red	dox thr	ougho	ut the p	rofile.	



wasc002e_w_E



wasc002e_w_W

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION				
Project name: Line 5 Relocation Project	Evaluator(s): BRG/JSW			
File #: wasc002	Date of visit(s): 09/10/2019			
Location: PLSS: 046N-004W-07	Ecological Landscape: Superior Coastal Plain			
Lat: 46.48611 Long: -90.906635	Watershed: LS10, White River			
County: <u>Ashland</u> Town/City/Village: White River town				
SITE DESCRIPTION				
Soils: Mapped Type(s):	WWI Class: N/A			
580B Sanborg-Badriver complex, 0 to 6 percent slopes	Wetland Type(s): PEM			
Field Verified:				
Series not verified. Soils were a clay loam over clay.	Wetland Size: Wetland Area Impacted 0.45 0.45			
	Vegetation: Plant Community Description(s):			
Hydrology: The hydrologic regime of the wetland is saturated, and the wetland exhibits recharge hydrology. The wetland is connected to a culvert running under a paved road, and is associated with stream sasc-001e.	The plant community consists of a fresh wet meadow with invasive species cover.			

SITE	ИАР		

SECTION 1: Functional Value Assessment

1 N N Used for recreation (hunting, birding, hiking, etc.). List: 2 N N Used for education of or scientific purposes 3 Y Y Y Visually or physically accessible to public 4 N N N Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation 5 N N In or adjacent to RED FLAG areas List: 6 N N Supports or provides habitat for endangered, threatened or special concern species 7 In or adjacent to archaeological or cultural resource site WH Wildlife Habitat 1 N N Wetland and contiguous habitat 10 acres 2 N N N 3 or more strata present (>10% cover) 3 N N Within or adjacent to habitat corridor or established wildlife habitat area 4 N N 100 m buffer - natural land cover> ≥50%(south) 75% (north) intact 5 N N 0 Cocurs in a Joint Venture priority township 6 N N Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex,etc.) 7 N Y plans 8 N N Part of a large habitat block that supports area sensitive species 9 N Y Ephemeral pond with water present ≥ 45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N N Provides habitat starcture (habitat corridor amphibians and aquatic invertebrates 11 N N Wetland is connected or configuous with perennal stream or lake 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) 14 N N Wetland is connected or configuous with perennal stream or lake 15 N N N Natural Heritage inventory (NHI) iliade aquatic species within aquatic system 16 N N N Natural Heritage inventory (NHI) iliade aquatic species within aquatic system 17 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 18 N N N Natural Heritage inventory (NHI) iliade aquatic species within aquatic system 19 N Y Standing water provides habitat for amphibians and aquatic invertebrates 2 N N N Natural Heritage inventory (NHI) iliade aquatic species within aquatic system 2 N N N Natural Heritage inventory (NHI) iliade aquatic species within aquatic system 2 N N N Natu			ECTION 1:	Functional Value Assessment
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3	2	N	N	Used for educational or scientific purposes
A N Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation	3	Υ	Υ	
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S		- ' '		
File	5	N	N	
In or adjacent to archaeological or cultural resource site Wildlife Habitat	6	N	NI	
Wildlife Habitat N		IN	IN	
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7 Y Y Stormwater or surface water from agricultural land is major hydrology source 8 N Y Discharge to surface water 9 Y Y Natural land cover in 100m buffer area < 50% GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic	5	Υ	Υ	Dense, persistent vegetation
7 Y Y Stormwater or surface water from agricultural land is major hydrology source 8 N Y Discharge to surface water 9 Y Y Natural land cover in 100m buffer area < 50% GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic	6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
8 N Y Discharge to surface water 9 Y Y Natural land cover in 100m buffer area < 50%				
9 Y Y Natural land cover in 100m buffer area < 50% GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic				
GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic				
1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic				
2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic		N.I	N.I	
3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic				
4 N N Wetland soils are organic				
<u> </u>				
A , A ,				
5 N N Wetland is within a wellhead protection area	5	N	N	Wetland is within a wellhead protection area

HU-3: located adjacent to a paved public road HU-4: heavily degraded, with high invasive species cover FA-2: evidence of long-term standing water where the wetland connects to the roadside culvert WQ-1: wetland collects stormwater runoff from the adjacent road and crop field WQ-2: the wetland is associated with a roadside culvert WQ-8: the wetland has groundwater recharge hydrology, but likely discharges some water into the associated stream after heavy rain events Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments Avian (marginal) Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat Frogs Υ Aquatic invertebrates

Section 1 Comments (Refer to Section 1 numbers)

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%√	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4 /	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
		PEM	Abundant
			Uncommon
		PEM	Uncommon
		PEM	Uncommon
			Uncommon
			Uncommon
		PEM	Uncommon
_			<u> </u>
+			
+			
+			
	Common Name		C communities PEM PEM PEM PEM PEM PEM PEM PEM PEM

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The wetland is dominated by reed canary grass, and is heavily disturbed, with all other species present being weedy in some capacity.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor	
					Filling, berms (non-impounding)	
	Х				Drainage – tiles, ditches	
					Hydrologic changes - high capacity wells,	
					impounded water, increased runoff	
	Х		Н	С	Point source or stormwater discharge	
	Х		M	С	Polluted runoff	
					Pond construction	
	Х		Н	С	Agriculture – row crops	
					Agriculture – hay	
					Agriculture – pasture	
	Х		M	С	Roads or railroad	
	Х		M	С	Utility corridor (above or subsurface)	
					Dams, dikes or levees	
					Soil subsidence, loss of soil structure	
					Sediment input	
			D.4		Removal of herbaceous stratum – mowing,	
X	X		M	U	grading, earthworms, etc.	
					Removal of tree or shrub strata – logging,	
					unprescribed fire	
					Human trails – unpaved	
					Human trails – paved	
					Removal of large woody debris	
X	Х		Н	С	Cover of non-native and/or invasive species	
					Residential land use	
					Urban, commercial or industrial use	
					Parking lot	
					Golf course	
					Gravel pit	
					Recreational use (boating, ATVs, etc.)	
					Excavation or soil grading	
					Other (list below):	

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

ı	The wetland is heavily impacted by agricultural activity and the adjacent paved road. As a result, reed canary grass
I	has taken over the wetland, and its quality is heavily reduced.
I	
I	
I	
I	
I	

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION	SIGNIFICANCE							
	Low	Medium	High	Exceptional	NA			
Floristic Integrity	√							
Human Use Values	√							
Wildlife Habitat	√							
Fish and Aquatic Life Habitat	√							
Shoreline Protection	√							
Flood and Stormwater Storage			√					
Water Quality Protection			√					
Groundwater Processes	√							

FUNCTION	RATIONALE
Floristic Integrity	Dominated by invasive species
Human Use Values	No suitable human uses
Wildlife Habitat	Marginal avian habitat
Fish and Aquatic Life Habitat	Some standing water likely present enough to facilitate some aquatic life. However, polluted runoff and fertilizers/pesticides likely reduced habitat potential
Shoreline Protection	Helps decrease erosion into small associated stream feature
Flood and Stormwater Storage	Collects runoff from crop field and paved road
Water Quality Protection	Some groundwater recharge. Dense vegetation helps to filter water in a disturbed agricultural area with high runoff
Groundwater Processes	Groundwater recharge

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/C	ounty: Ashland	S	Sampling Date: 2019-09-10
Applicant/Owner: Enbridge				
Investigator(s): BRG/JSW				· -
Landform (hillslope, terrace, etc.): Talf				
Subregion (LRR or MLRA): Northcentral Forests				
Soil Map Unit Name: Sanborg-Badriver Co		•		
Are climatic / hydrologic conditions on the site typic				
Are Vegetation, Soil, or Hydrology _	significantly distur	bed? Are "Normal	Circumstances" pre	esent? Yes No✓
Are Vegetation, Soil, or Hydrology _	naturally problema	atic? (If needed, ex	xplain any answers	in Remarks.)
SUMMARY OF FINDINGS - Attach site	e map showing sam	pling point location	ns, transects, i	important features, etc.
Hydrophytic Vegetation Present? Yes	No <u>✓</u>	Is the Sampled Area		
	No <u> </u>	within a Wetland?	Yes	No <u>√</u>
Wetland Hydrology Present? Yes		If yes, optional Wetland	Site ID:	
Remarks: (Explain alternative procedures here or	r in a separate report.)	7 - 7 - 7 - 7 - 7 - 7 - 7 - 7 - 7 - 7 -		
The upland is a planted corn field				
LIVEROLOGY				
HYDROLOGY Wetland Hydrology Indicators:			Secondary Indicato	ors (minimum of two required)
Primary Indicators (minimum of one is required; cl	heck all that annly)	·	-	
	Water-Stained Leave		Drainage Patte	
	Aquatic Fauna (B13)		Moss Trim Line	
	Marl Deposits (B15)	•	Dry-Season Wa	
	Hydrogen Sulfide Ode	or (C1)	Crayfish Burrov	
	Oxidized Rhizosphere			ble on Aerial Imagery (C9)
	Presence of Reduced		Stunted or Stre	essed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reductio	n in Tilled Soils (C6)	Geomorphic Po	osition (D2)
Iron Deposits (B5)	Thin Muck Surface (C	27)	Shallow Aquita	rd (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Ren	narks)	Microtopograph	hic Relief (D4)
Sparsely Vegetated Concave Surface (B8)			FAC-Neutral To	est (D5)
Field Observations:				
Surface Water Present? Yes No	✓ Depth (inches):			
Water Table Present? Yes No	✓ Depth (inches):			
	✓ Depth (inches):	Wetland H	ydrology Present?	? Yes No <u>√</u>
(includes capillary fringe) Describe Recorded Data (stream gauge, monitorional describes and the control of th	ng well, aerial photos, pre	vious inspections), if avail	lable:	
	g, p, p	,,,,,,,,,,		
Remarks:	v wore cheerwood	Dunoff from this	unland carn	field travels into the
No indicators of wetland hydrolog	y were observed.	Runon from this	upiana com	neid traveis into the
adjacent wetland.				

VEGETATION – Use scientific names of plants.

		Sampling Point: wasc002_u
Tree Stratum (Plot size:30')	Absolute Dominant Indicator % Cover Species? Status	Dominance Test worksheet:
1		Number of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A)
2		Total Number of Dominant Species Across All Strata: 1.0 (B)
4		Percent of Dominant Species
5		That Are OBL, FACW, or FAC: 0.0 (A/B)
		Prevalence Index worksheet:
7	0.0 = Total Cover	Total % Cover of: Multiply by:
0 11 (0) 1 0 (1) (1) (1)	= Total Cover	OBL species x 1 = FACW species x 2 =
Sapling/Shrub Stratum (Plot size: 15')		FAC species 0.0 x 2 = 0.0 FAC species 0.0 x 3 = 0.0
1		FACU species
2		
3		UPL species $0.0 \times 5 = 0.0$
4		Column Totals:(A)(B)
5		Prevalence Index = B/A =
6.		Hydrophytic Vegetation Indicators:
		1 - Rapid Test for Hydrophytic Vegetation
7		2 - Dominance Test is >50%
	= Total Cover	3 - Prevalence Index is ≤3.0 ¹
Herb Stratum (Plot size: <u>5'</u>) 1. <u>Zea mays</u>	90.0 Y NI	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
		Problematic Hydrophytic Vegetation ¹ (Explain)
2.		Troblematic Try drophytic regetation (Explain)
3 4		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5		Definitions of Vegetation Strata:
6.		Definitions of Vegetation offata.
7		Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8		Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
9		
10 11		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
12.		Woody vines – All woody vines greater than 3.28 ft in
	0.0 = Total Cover	height.
Woody Vine Stratum (Plot size:)		
1		
		Hydrophytic
2		
		Vegetation Present? Yes No✓

SOIL Sampling Point: wasc002_u

		to the dep				or confirm	n the absence of indicators.)		
Depth (inches)	Matrix Color (moist)	%	Color (moist)	<u>Features</u> %	Type ¹	Loc ²	Texture Remarks		
0-8	10YR 3/3	100	Color (molor)		.,,,,,		CL		
8-18	5YR 4/4	100							
		. ———							
-	-								
		letion, RM=	Reduced Matrix, MS	=Masked	Sand Gra	ains.	² Location: PL=Pore Lining, M=Matrix.		
Hydric Soil Histosol			Polyvalue Belov	/ Surface	(S8) (I RE	R.	Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (LRR K, L, MLRA 149B)		
	pipedon (A2)		MLRA 149B)		(00) (=111	,	2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R)		
	stic (A3) en Sulfide (A4)		Thin Dark Surfa Loamy Mucky M				5 cm Mucky Peat or Peat (S3) (LRR K, L, RDark Surface (S7) (LRR K, L)		
	d Layers (A5)		Loamy Gleyed N			, L)	Polyvalue Below Surface (S8) (LRR K, L)		
	d Below Dark Surface	e (A11)	Depleted Matrix				Thin Dark Surface (S9) (LRR K, L)		
	ark Surface (A12) Nucky Mineral (S1)		Redox Dark Sur Depleted Dark S		7)		Iron-Manganese Masses (F12) (LRR K, L, F Piedmont Floodplain Soils (F19) (MLRA 149)		
Sandy G	Gleyed Matrix (S4)		Redox Depressi		- /		Mesic Spodic (TA6) (MLRA 144A, 145, 149		
	Redox (S5) I Matrix (S6)						Red Parent Material (F21) Very Shallow Dark Surface (TF12)		
	rface (S7) (LRR R, N	/ILRA 149E	3)				Other (Explain in Remarks)		
³ Indicators o	f hydrophytic vegetat	tion and we	tland hydrology mus	t be prese	ent, unless	disturbed	or problematic.		
Restrictive I	Layer (if observed):								
Type:							Hadria Ocil Brazanio Van		
	ches):						Hydric Soil Present? Yes No✓		
Remarks:	c soil indicator	rs ohse	rved						
140 Hydri		0000	voa.						



wasc002_u_E



wasc002_u_W

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	land	Sampling Date: 2019-09-10
Applicant/Owner: Enbridge			
Investigator(s): BRG/JSW	Section, Township	, Range: <u>046N-004V</u>	V-07
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.4843			
Soil Map Unit Name: Allendale loamy fine sand, 0 to			
Are climatic / hydrologic conditions on the site typical for this time of			
Are Vegetation, Soil, or Hydrology significar	•		
Are Vegetation, Soil, or Hydrology naturally		If needed, explain any ans	
SUMMARY OF FINDINGS – Attach site map showi	ing sampling poli	nt locations, transec	cts, important features, etc.
Hydrophytic Vegetation Present? Yes No	Is the Sam		
Hydric Soil Present? Yes✓ No	<u> </u>	etland? Yes	<u>√</u> No
Wetland Hydrology Present? Yes No		nal Wetland Site ID:	
Remarks: (Explain alternative procedures here or in a separate re The wetland is a roughly linear feature locate	^{eport.)} ed in a roadside	e ditch, and is het	ween a payed road and
a corn field. A second sample transect has b field.			•
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary In-	dicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that app	oly)	Surface S	
	ned Leaves (B9)		Patterns (B10)
High Water Table (A2) Aquatic Fau			m Lines (B16)
Saturation (A3) Marl Deposi			son Water Table (C2)
	Sulfide Odor (C1) nizospheres on Living F		Burrows (C8) n Visible on Aerial Imagery (C9)
	f Reduced Iron (C4)		or Stressed Plants (D1)
	Reduction in Tilled So		phic Position (D2)
Iron Deposits (B5) Thin Muck S		Shallow A	
Inundation Visible on Aerial Imagery (B7) Other (Expla	ain in Remarks)	Microtopo	ographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-Neu	utral Test (D5)
Field Observations:			
Surface Water Present? Yes _ ✓ No Depth (inch			
Water Table Present? Yes No✓ Depth (inch	•		
Saturation Present? Yes No✓ Depth (inch (includes capillary fringe)	hes):	Wetland Hydrology Pre	esent? Yes No
Describe Recorded Data (stream gauge, monitoring well, aerial ph	hotos, previous inspect	ions), if available:	
Remarks:			
The hydrologic regime is saturated, with recl	harge hydrolog	y. The wetland co	ollects runoff from both
the adjacent crop field and the adjacent pave	ed road, and is	associated with a	a culvert that connects to
wetland wasc002e under a dirt pulloff. A rece	ent rain event c	occurred prior to tl	he survey date.
		-	-

VEGETATION – Use scientific names of plants.

VEGETATION – Use scientific names of plants.				Sampling Point: wasc003e_w1
Tree Charles (Diet sies 20)	Absolute		t Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size:30') 1	% Cover			Number of Dominant Species That Are OBL, FACW, or FAC: 2.0 (A)
2				Total Number of Dominant Species Across All Strata: 2.0 (B)
4			<u> </u>	Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)
5				100.0 (12)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0.0	= Total Co	ver	OBL species <u>20.0</u> x 1 = <u>20.0</u>
Sapling/Shrub Stratum (Plot size: 15')				FACW species
1				FAC species0.0 x 3 =0.0
2				FACU species <u>6.0</u> x 4 = <u>24.0</u>
				UPL species x 5 =
3				Column Totals: <u>96.0</u> (A) <u>184.0</u> (B)
4				Prevalence Index = B/A =1.9
6				Hydrophytic Vegetation Indicators:
7				
		= Total Co		∠ 2 - Dominance Test is >50%
The second secon	0.0	= 10(a) C0	ver	y 3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5')				4 - Morphological Adaptations ¹ (Provide supporting
1. <u>Phalaris arundinacea</u>	50.0		<u>FACW</u>	data in Remarks or on a separate sheet)
2. Symphyotrichum lanceolatum	20.0	Y	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Juncus effusus</u>	10.0	N	OBL	¹ Indicators of hydric soil and wetland hydrology must
4. <u>Typha X glauca</u>	5.0	N	OBL	be present, unless disturbed or problematic.
5. Scirpus cyperinus	5.0	N	OBL	Definitions of Vegetation Strata:
6. Sonchus arvensis	5.0	N	FACU	
7. <u>Solidago altissima</u>			FACU	Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10.				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in height.
	96.0	= Total Co	ver	
Woody Vine Stratum (Plot size:30') 1				
2				
3				Hydrophytic Vegetation
4				Present? Yes No
		= Total Co	ver	
Remarks: (Include photo numbers here or on a separate s		ا طائید ہ	oigh or ···	voolaroos sover in portions of the
The wetland is dominated by reed cana wetland. The edge of the wetland is mo			_	•

US Army Corps of Engineers

SOIL Sampling Point: wasc003e_w1

Profile Desci	ription: (Describe to	o the depth	needed to docur	nent the i	ndicator	or confirm	the absence of indic	ators.)
Depth	Matrix			x Features		. 2		
(inches)	Color (moist)	%	Color (moist)	%	Type'	Loc ²	Texture	Remarks
					-			
				· ——				
¹ Type: C=Co	ncentration, D=Deple	etion, RM=F	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	² Location: PL=Po	re Lining, M=Matrix.
Hydric Soil I	ndicators:						Indicators for Prob	olematic Hydric Soils ³ :
Histosol ((A1)	_	Polyvalue Belov	w Surface	(S8) (LRF	RR,	2 cm Muck (A1	0) (LRR K, L, MLRA 149B)
Histic Ep	ipedon (A2)		MLRA 149B)					edox (A16) (LRR K, L, R)
Black His		_	Thin Dark Surfa	ice (S9) (L	RR R, ML	RA 149B)	5 cm Mucky Pe	eat or Peat (S3) (LRR K, L, R)
Hydroger	n Sulfide (A4)	_	Loamy Mucky N	/lineral (F1	1) (LRR K	, L)	Dark Surface (S	67) (LRR K, L)
Stratified	Layers (A5)	_	Loamy Gleyed I	Matrix (F2))		Polyvalue Belov	w Surface (S8) (LRR K, L)
Depleted	Below Dark Surface	(A11) _	Depleted Matrix	(F3)			Thin Dark Surfa	ace (S9) (LRR K, L)
Thick Da	rk Surface (A12)	_	Redox Dark Su	rface (F6)			Iron-Manganes	e Masses (F12) (LRR K, L, R)
Sandy M	ucky Mineral (S1)	_	Depleted Dark \$	Surface (F	7)		Piedmont Flood	dplain Soils (F19) (MLRA 149B)
Sandy G	leyed Matrix (S4)	_	Redox Depress	ions (F8)			Mesic Spodic (*	TA6) (MLRA 144A, 145, 149B)
Sandy Re	edox (S5)						Red Parent Ma	terial (F21)
Stripped	Matrix (S6)						Very Shallow D	ark Surface (TF12)
Dark Sur	face (S7) (LRR R, M	LRA 149B)					✓ Other (Explain)	in Remarks)
³ Indicators of	hydrophytic vegetati	on and wetl	and hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
Restrictive L	ayer (if observed):							
Type:								
Denth (inc	has):						Hydric Soil Present	? Yes/ No
Deptil (ilic	hes):						,	
Kemaiks.						أستنظ المثا	ا ملائد ، ما ما الله ، الما	
								n the roadside ditch.
Soils ass	umed hydric b	ased or	n the landsca	ipe pos	sition a	nd dom	inant vegetatio	n.



wasc003e_w1_N



wasc003e_w1_S

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocat	ion Proiect	City/C	ounty: Ashl	and	Sampling Date: <u>2019-09-10</u>
	•				Sampling Point: wasc003e_w2
Investigator(s): BRG/JSW					
					NVE Slope (%): 0-2%
					Datum: WGS84
					sification:
Are climatic / hydrologic conditions					
					es" present? Yes No✓
Are Vegetation, Soil	_, or Hydrology	naturally problema	atic? (If	needed, explain any ans	swers in Remarks.)
SUMMARY OF FINDINGS -	 Attach site ma 	ap showing sam	pling poin	t locations, transe	cts, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present?	Yes <u></u> ✓	No		tland? Yes	
Wetland Hydrology Present? Remarks: (Explain alternative pro			If yes, optiona	al Wetland Site ID:	
struggled to grow in the	sent. The wet		•		orn and occasional d with corn, but corn has
HYDROLOGY					
Wetland Hydrology Indicators:				-	dicators (minimum of two required)
Primary Indicators (minimum of o					Soil Cracks (B6)
✓ Surface Water (A1)		Water-Stained Leaves			Patterns (B10)
High Water Table (A2) Saturation (A3)		Aquatic Fauna (B13) Marl Deposits (B15)			m Lines (B16) son Water Table (C2)
Water Marks (B1)		Hydrogen Sulfide Odd	or (C1)	Crayfish	
Sediment Deposits (B2)		Oxidized Rhizosphere			n Visible on Aerial Imagery (C9)
Drift Deposits (B3)		Presence of Reduced			or Stressed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduction	. ,		phic Position (D2)
Iron Deposits (B5)		Thin Muck Surface (C		Shallow A	
Inundation Visible on Aerial I		Other (Explain in Rem			ographic Relief (D4)
Sparsely Vegetated Concave			,		utral Test (D5)
Field Observations:					
Surface Water Present? Y	es No <u></u> ✓	Depth (inches):			
Water Table Present? Y	es No	Depth (inches):			
	es No	Depth (inches):		Wetland Hydrology Pre	esent? Yes/ No
(includes capillary fringe) Describe Recorded Data (stream	gauge, monitoring w	rell, aerial photos, prev	vious inspection	ons), if available:	
,			•	,	
Remarks: The hydrologic regime	is saturated v	with recharge b	hvdrology	Runoff collects	in the wetland from the
surrounding crop fields	•		, ,,		
Surrounding crop licids	. Orianow Suri	acc water is p	icsciii ou	iside the sample	piot.
1					

VEGETATION – Use scientific names of plants.

/EGETATION - Use scientific names of plants				Sampling Point: wasc003e_w2
Tree Stratum (Plot size:30')	Absolute % Cover		t Indicator Status	Dominance Test worksheet:
1		•		Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata:(B)
4				Percent of Dominant Species
5			_	That Are OBL, FACW, or FAC: (A/B)
6			_	Prevalence Index worksheet:
7		-		Total % Cover of: Multiply by:
	0.0	= Total Co	over	OBL species x 1 =
Sapling/Shrub Stratum (Plot size:)				FACW species x 2 =0.0
1				FAC species 2.0 x 3 = 6.0
2				FACU species 1.0 x 4 = 4.0 UPL species 0.0 x 5 = 0.0
3				Column Totals: 10.0 (A) 17.0 (B)
4				
5				Prevalence Index = B/A =1_7
6		-		Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	0.0	= Total Co	over	2 - Dominance Test is >50%
Herb Stratum (Plot size: 5')				 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting
1. <u>Zea mays</u>	20.0	Y	NI	data in Remarks or on a separate sheet)
2. <u>Diplachne fusca</u>	5.0	N	OBL	✓ Problematic Hydrophytic Vegetation¹ (Explain)
3. <u>Echinochloa crus-galli</u>	2.0	N	FAC	The disease of burden cell and westered burdens are as as
4. <u>Persicaria amphibia</u>	2.0	N	OBL	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <u>Trifolium repens</u>	1.0	N	<u>FACU</u>	Definitions of Vegetation Strata:
6				
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11		-		of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	10.0	= Total Co	over	height.
Woody Vine Stratum (Plot size: 30')				
1			_,	
2				
3.				Hydrophytic
4				Vegetation
	0.0		over	Present? Yes No
Remarks: (Include photo numbers here or on a separate The wetland is in a farmed field, with sannuals growing in open areas.	sheet.) tunted a	nd stre	ssed coi	rn crop present and advantageous

SOIL Sampling Point: wasc003e_w2

Profile Des	cription: ([Describe	to the dep	th needed to docun	ent the i	ndicator	or confirm	the absence of i	ndicators.)
Depth (inches)	Color (Matrix moist)	%	Color (moist)	<u>Features</u> %	Type ¹	Loc ²	Texture	Remarks
0-5	10YR		100	Color (molot)	70	Турс		CL	Nomano
5-18	10YR	2/2	50					С	
	5YR	4/3	40					C	
	5YR		10					C	
		- J/O							
Hydric Soil Histoso Histic E Black H Hydrog Stratifie Deplete Thick D Sandy I Sandy I Strippe Dark St Restrictive	Indicators: I (A1) I pipedon (A2 listic (A3) en Sulfide (A3) en Sulfide (A3) ed Below Da eark Surface Mucky Mine Gleyed Matr Redox (S5) d Matrix (S6 urface (S7) (A4) 5) rk Surface (A12) ral (S1) ix (S4) LRR R, M	e (A11) ILRA 149I ion and we	Polyvalue Below MLRA 149B) Thin Dark Surfa Loamy Mucky M Loamy Gleyed M Depleted Matrix Redox Dark Sur Depleted Dark Sur Redox Depressi	v Surface ce (S9) (L lineral (F1 Matrix (F2 (F3) face (F6) Surface (F ons (F8)	(S8) (LRF LRR R, MI I) (LRR K I)	RA 149B) L)	Indicators for 2 cm Muck Coast Prai 5 cm Muck Dark Surfa Polyvalue Thin Dark Iron-Manga Piedmont I Mesic Spo Red Paren Very Shall	=Pore Lining, M=Matrix. Problematic Hydric Soils ³ : (A10) (LRR K, L, MLRA 149B) rie Redox (A16) (LRR K, L, R) ty Peat or Peat (S3) (LRR K, L, R) see (S7) (LRR K, L) Below Surface (S8) (LRR K, L) Surface (S9) (LRR K, L) anese Masses (F12) (LRR K, L, R) Floodplain Soils (F19) (MLRA 149B) dic (TA6) (MLRA 144A, 145, 149B) at Material (F21) by Dark Surface (TF12) olain in Remarks)
Type:	nches):							Hydric Soil Pre	sent? Yes/ No
				ous tillage and tation indicate					ors. Hydrology and



wasc003e_w2_E



wasc003e_w2_W

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION		
Project name: Line 5 Relocation Project	Evaluator(s): BRG/JSW	
File #: wasc003	Date of visit(s): 09/10/2019	
Location: PLSS: 046N-004W-07	Ecological Landscar Superior Coastal Plain	oe:
Lat: 46.484392 Long: -90.907323	Watershed: LS10 White River	
County: Ashland Town/City/Village: White River town		
SITE DESCRIPTION		
Soils: Mapped Type(s):	WWI Class:	
280C 280F 580B 226A, Odanah silt loam, 6 to 15 percent slopes, Odanah silt loam, 25 to 60 percent slopes, Sanborg-Badriver complex, 0 to 6 percent slopes, Allendale loamy fine sand, 0 to 3 percent slopes Field Verified:	Wetland Type(s): PEM - fresh wet i	meadow
The series was not verified. Soils were not sampled due to their location in a roadside ditch.		Wetland Area Impacted 0.64
·	Vegetation: Plant Community De	escription(s):
Hydrology: The hydrologic regime is saturated, with recharge hydrology. The wetland receives runoff from the adjacent paved road and crop field, and is connected via culvert to wetland wasc-002e.	Fresh wet meado	ow dominated by Phalaris Scirpus cyperinus

SITE MAP

SECTION 1: Functional Value Assessment

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Ν	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
	- ' '	- 11	In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	IN	111	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4			100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	N	N	
-	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	N	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present > 45 days
10	N	N	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	Ν	N	Wetland is connected or contiguous with perennial stream or lake
2	Υ	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	NA	NA	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	NA	NA	water levels or high flows – if no, not applicable
3	NA	NA	Densely rooted emergent or woody vegetation
ST	14/ (147	Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	N	N	Water flow through wetland is NOT channelized
3	Y	Y	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	Y	Y	Point or non-point source inflow
-			
6 7	N	N	Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland
-	N	N	
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	Y	Y	Provides substantial storage of storm and floodwater based on previous section
2	N	Y	Basin wetland or constricted outlet
3	N	N	Water flow through wetland is NOT channelized
4	N	N	Vegetated wetland associated with a lake or stream
5			
- '	Υ	Y	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N N	N N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source
7 8	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water
7	N N	N N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50%
7 8	N N N	N N N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water
7 8 9	N N N	N N N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes
7 8 9 GW 1	N N N N	N N N N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present
7 8 9 GW 1 2	N N N N	N N N N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland
7 8 9 GW 1 2 3	N N N N N	N N N N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland Wetland remains saturated for an extended time period with no additional water inputs
7 8 9 GW 1 2	N N N N	N N N N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland

		at and Species Observation (including amphibians and reptiles) servation, tracks, scat, other sign; type of habitat: nesting, migratory,
wi	nter, etc.	
Observed	Potential	
	Y	Avian
Y	Y	Frogs
		atic Life Habitat and Species Observations oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observed	Potential	Species/Habitat

Section 1 Comments (Refer to Section 1 numbers)

HU-3: located in a roadside ditch ST-5: receives runoff from paved road and agricultural field

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%√	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4 /	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
			Common
			Common
		PEM	Uncommon
			Uncommon
			Uncommon
			Uncommon
		PEM	Uncommon
			<u> </u>
	Common Name		C communities PEM PEM PEM PEM PEM PEM PEM PEM PEM

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

Dominated by invasives, many weedy roadside species present.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
			Н	С	Point source or stormwater discharge
					Polluted runoff
					Pond construction
	Х		Н	С	Agriculture – row crops
	Х		L	С	Agriculture – hay
					Agriculture – pasture
	Х		Н	С	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing,
X	X		M	С	grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
Х	Х		Н	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):
					, ,

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The wetland is a low quality feature that is heavily disturbed by adjacent human land use.						

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity	√		_		
Human Use Values	√				
Wildlife Habitat		/			
Fish and Aquatic Life Habitat		✓			
Shoreline Protection					1
Flood and Stormwater Storage		/			
Water Quality Protection		✓			
Groundwater Processes	√				

FUNCTION	RATIONALE				
Floristic Integrity	High invasive cover, common weedy species				
Human Use Values	No good uses				
Wildlife Habitat	Marginal migratory bird habitat, but discouraged by heavy high-speed traffic on the adjacent road. Frogs observed.				
Fish and Aquatic Life Habitat	Insufficient standing water duration				
Shoreline Protection					
Flood and Stormwater Storage	Collects runoff from adjacent road and crop field				
Water Quality Protection	See above				
Groundwater Processes	Only contributes to groundwater recharge; no other significant processes				

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County	y: Ashland		Sampling Date: <u>2019-09-10</u>	
Applicant/Owner: Enbridge					
Investigator(s): BRG/JSW	Section, To	ownship, Range: 0	46N-004W-0)7	
Landform (hillslope, terrace, etc.): Crest					
Subregion (LRR or MLRA): Northcentral Forests La					
Soil Map Unit Name: Allendale loamy fine s					
•	•	•			
Are climatic / hydrologic conditions on the site typical	•				
Are Vegetation, Soil, or Hydrology					
Are Vegetation, Soil, or Hydrology	naturally problematic?	(If needed, e	explain any answe	rs in Remarks.)	
SUMMARY OF FINDINGS – Attach site	map showing samplin	ng point location	ons, transects	, important features, etc.	
Hydrophytic Vegetation Present? Yes	No _✓ Is th	he Sampled Area			
	No ✓ with	nin a Wetland?	Yes	No <u> </u>	
Wetland Hydrology Present? Yes		es, optional Wetland	d Site ID:		
Remarks: (Explain alternative procedures here or in The upland is an actively maintained	n a separate report.)				
HADBOI OCA					
HYDROLOGY Wetland Hydrology Indicators:			Secondary Indica	tors (minimum of two required)	
Primary Indicators (minimum of one is required; che	ck all that annly)				
	_ Water-Stained Leaves (B9		Surface Soil Cracks (B6) Drainage Patterns (B10)		
	_ Aquatic Fauna (B13)	,	Moss Trim Lines (B16)		
	_ Marl Deposits (B15)		Dry-Season Water Table (C2)		
	_ Hydrogen Sulfide Odor (C	1)	Crayfish Burrows (C8)		
	_ Oxidized Rhizospheres on				
	_ Presence of Reduced Iron		Stunted or Stressed Plants (D1)		
	Recent Iron Reduction in T	filled Soils (C6)			
	_ Thin Muck Surface (C7)		Shallow Aquitard (D3)		
	_ Other (Explain in Remarks	;)	Microtopographic Relief (D4)		
Sparsely Vegetated Concave Surface (B8)			FAC-Neutral	Test (D5)	
Field Observations:	Danilla (farahara)				
	Depth (inches):				
	Depth (inches):		hadrala ma Busasan	40 Van Na /	
Saturation Present? Yes No _✓ (includes capillary fringe)	Depth (inches):	wetland r	ayarology Presen	t? Yes No _ ✓	
Describe Recorded Data (stream gauge, monitoring	well, aerial photos, previous	inspections), if ava	ailable:		
Remarks:					
No indicators of wetland hydrology	were observed. Ru	unoff from the	upland crop	field travels into the	
adjacent wetland.					
,					

VEGETATION – Use scientific names of plants.

	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover Species? Status	Number of Dominant Species
1		That Are OBL, FACW, or FAC: 0.0 (A)
2		Total Number of Dominant
3		Species Across All Strata:(B)
4		Percent of Dominant Species
5		That Are OBL, FACW, or FAC: (A/B)
6		Prevalence Index worksheet:
7		Total % Cover of: Multiply by:
		OBL species x 1 =
Sapling/Shrub Stratum (Plot size:)		FACW species 1.0 x 2 = 2.0
1		FAC species <u>2.0</u> x 3 = <u>6.0</u>
2		FACU species0.0 x 4 =0.0
		UPL species x 5 = 0.0
3		Column Totals: (A) (B)
4		Prevalence Index = B/A = 2.7
5		
6		Hydrophytic Vegetation Indicators:
7		1 - Rapid Test for Hydrophytic Vegetation
	= Total Cover	2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5')		4 - Morphological Adaptations ¹ (Provide supporting
1. <u>Zea mays</u>		data in Remarks or on a separate sheet)
2. <u>Equisetum arvense</u>		Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Agrostis gigantea</u>	1.0NFACW	¹ Indicators of hydric soil and wetland hydrology must
4		be present, unless disturbed or problematic.
5		Definitions of Vegetation Strata:
6		Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7		at breast height (DBH), regardless of height.
8		Sapling/shrub – Woody plants less than 3 in. DBH
9		and greater than or equal to 3.28 ft (1 m) tall.
10		Herb – All herbaceous (non-woody) plants, regardless
11.		of size, and woody plants less than 3.28 ft tall.
12		Woody vines – All woody vines greater than 3.28 ft in
12.	3.0 = Total Cover	height.
Woody Vino Stratum (Plot size: 30'	= Total Cover	
Woody Vine Stratum (Plot size: 30')		
1		
2		
3		Hydrophytic
4		Vegetation Present? Yes No✓
	= Total Cover	
Remarks: (Include photo numbers here or on a separate The upland is located in a planted corn		
The upland is located in a planted com	i ilciu.	

Sampling Point: wasc003_u1

SOIL Sampling Point: wasc003_u1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Matrix							
Color (moist)	% Color (moist)	%	Type'		Texture	Remarks	
		- —— - ——					
	n, RM=Reduced Matrix, M	S=Masked	Sand Gra	ins.		Pore Lining, M=Matrix.	
(A1) pipedon (A2) istic (A3) en Sulfide (A4) d Layers (A5) d Below Dark Surface (A1 ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) d Matrix (S6) Irface (S7) (LRR R, MLRA	MLRA 149E Thin Dark Surf Loamy Mucky Loamy Gleyed Depleted Matri Redox Dark St Depleted Dark Redox Depres	ace (S9) (LI Mineral (F1) Matrix (F2) x (F3) urface (F6) Surface (F7) sions (F8)	RR R, ML (LRR K,	.RA 149B) L)	2 cm Muck (/ Coast Prairie 5 cm Mucky Dark Surface Polyvalue Be Thin Dark Su Iron-Mangan Piedmont Flo Mesic Spodio Red Parent M Very Shallow Other (Explain	A10) (LRR K, L, MLRA 149B) Redox (A16) (LRR K, L, R) Peat or Peat (S3) (LRR K, L, R) (S7) (LRR K, L) Relow Surface (S8) (LRR K, L) Urface (S9) (LRR K, L) Rese Masses (F12) (LRR K, L, R) Rodplain Soils (F19) (MLRA 149B) C (TA6) (MLRA 144A, 145, 149B) Material (F21)	
					Hydric Soil Prese	ent? Yes No✓_	
_			ation.	Soils a	ssumed non-l	nydric based on the	
	Matrix Color (moist) oncentration, D=Depletion Indicators: (A1) oipedon (A2) sistic (A3) en Sulfide (A4) d Layers (A5) d Below Dark Surface (A1 ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) I Matrix (S6) rface (S7) (LRR R, MLRA f hydrophytic vegetation a Layer (if observed): ches): Ild not be sample	Matrix Reduced Matrix, Material (A1) Polyvalue Belous (A3) MLRA 1498 (A3) Polyvalue (A1) Polyvalue (A1) Polyvalue (A2) Polyvalue (A3) Polyvalue (A4) Polyval	Matrix Redox Features Color (moist) % Color (moist) % concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Indicators: (A1) Polyvalue Below Surface (MLRA 149B) Stic (A3) Thin Dark Surface (S9) (L1 Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F1) Loamy Gleyed Matrix (F2) db Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F6) Redox Depressions (F8) Redox (S5) I Matrix (S6) I Matrix (S6) I face (S7) (LRR R, MLRA 149B) If hydrophytic vegetation and wetland hydrology must be present Layer (if observed): ches):	Matrix Redox Features Color (moist) % Type¹ Color (moist) % Type² Matrix Redox Features Color (moist) % Type¹ Loc² Color (So) (LRR R, MLRA 149B) Indicators: Color (moist) % Type¹ Loc² Color (So) (LRR R, MLRA 149B) Indicators: Color (moist) % Type¹ Loc² Color (So) (LRR R, MLRA 149B) Indicators: Color (Color (moist) % Type¹ Loc² Color (So) (LRR R, MLRA 149B) Indicators: Color (Color (moist) % Type² Loca Color	Matrix Redox Features Color (moist) % Color (moist) % Type¹ Loc² Texture Color (moist) % Type¹ Loc² Texture		



wasc003_u1_N



wasc003_u1_S

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/C	ounty: Ashland	s	ampling Date: 2019-09-10	
Applicant/Owner: Enbridge					
Investigator(s): BRG/JSW	Section	on, Township, Range: 04	16N-004W-07	,	
Landform (hillslope, terrace, etc.): Side slope					
Subregion (LRR or MLRA): Northcentral Forests					
Soil Map Unit Name: Odanah silt loam, 6					
Are climatic / hydrologic conditions on the site typic					
Are Vegetation, Soil, or Hydrology					
Are Vegetation, Soil, or Hydrology	naturally problema	atic? (If needed, ex	xplain any answers	in Remarks.)	
SUMMARY OF FINDINGS – Attach sit	e map showing sam	pling point location	ns, transects, i	mportant features, etc.	
Hydrophytic Vegetation Present? Yes	No <u></u>	Is the Sampled Area			
	No <u> </u>	within a Wetland?	Yes	No <u>√</u>	
Wetland Hydrology Present? Yes		If yes, optional Wetland	Site ID:		
Remarks: (Explain alternative procedures here of The upland is an actively planted	corn field.				
HYDROLOGY					
Wetland Hydrology Indicators:		<u>:</u>	Secondary Indicator	rs (minimum of two required)	
Primary Indicators (minimum of one is required; of					
	Water-Stained Leaves	s (B9)	Drainage Patterns (B10)		
High Water Table (A2)	Aquatic Fauna (B13)	-	Moss Trim Lines (B16)		
Saturation (A3) Water Marks (B1)	Marl Deposits (B15)Hydrogen Sulfide Odd	or (C1)	Dry-Season Water Table (C2)Crayfish Burrows (C8)		
Sediment Deposits (B2)	Oxidized Rhizosphere				
Drift Deposits (B3)	Presence of Reduced	-			
Algal Mat or Crust (B4)	Recent Iron Reduction				
Iron Deposits (B5)	Thin Muck Surface (C	. 7)	Shallow Aquitard (D3)		
	Other (Explain in Ren	narks)	Microtopographic Relief (D4)		
Sparsely Vegetated Concave Surface (B8)			FAC-Neutral Te	est (D5)	
Field Observations:					
	✓ Depth (inches):				
	✓ Depth (inches):			. Vaa. Na /	
Saturation Present? Yes No (includes capillary fringe)	✓ Depth (inches):	Wetland Hy	ydrology Present?	Yes No <u>√</u>	
Describe Recorded Data (stream gauge, monitor	ing well, aerial photos, pre	vious inspections), if avail	lable:		
Remarks:					
No indicators of wetland hydrolog	gy were observed.	Precipitation run	off travels fro	om the upland crop	
field into the adjacent wetland.					

VEGETATION – Use scientific names of plants.

Tree Christian (Diet sine) 201	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:30')	% Cover Species? Status	Number of Dominant Species
1		That Are OBL, FACW, or FAC:(A)
2		Total Number of Dominant Species Across All Strata: 1.0 (B)
3		Species Across All Strata:(B)
4		Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)
5		That Ale OBL, I ACW, OF I AC. (AVB)
6		Prevalence Index worksheet:
7	· —— —— ——	Total % Cover of: Multiply by:
	= Total Cover	OBL species <u>0.0</u> x 1 = <u>0.0</u>
Sapling/Shrub Stratum (Plot size:)		FACW species x 2 =0.0
1		FACULT PRODUCTION TACK A
2		FACU species x 4 = UPL species x 5 = 0.0
3		Column Totals: 0.0 (A) 0.0 (B)
4		
5	· · ·	Prevalence Index = B/A = 0.0
6		Hydrophytic Vegetation Indicators:
7		1 - Rapid Test for Hydrophytic Vegetation
	0.0 = Total Cover	2 - Dominance Test is >50%
Herb Stratum (Plot size:5')		3 - Prevalence Index is ≤3.0 ¹
1. Zea mays	95.0 Y NI	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2	· · ·	Problematic Hydrophytic Vegetation ¹ (Explain)
3		1
4.		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5		Definitions of Vegetation Strata:
6		
7		Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8	· · ·	Sapling/shrub – Woody plants less than 3 in. DBH
9		and greater than or equal to 3.28 ft (1 m) tall.
10		Herb – All herbaceous (non-woody) plants, regardless
11		of size, and woody plants less than 3.28 ft tall.
12		Woody vines – All woody vines greater than 3.28 ft in
	0.0 = Total Cover	height.
Woody Vine Stratum (Plot size:30')		
1		
2.		
3		Undershide
		Hydrophytic Vegetation
4	0.0 = Total Cover	Present? Yes No✓
Remarks: (Include photo numbers here or on a separate		
The upland is dominated by planted co		
,		

Sampling Point: wasc003_u2

SOIL Sampling Point: wasc003_u2

			to the dep				or confirm	n the absence of indicators.)
Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist) % Type ¹ Loc			Loc ²	Texture Remarks
0-6	7.5YR		100					FSL
6-18								FS.
	-							
	-							
			· ——					·
	-		·					
			. ——					
	-		·					
			·					
			·					
			·					
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Hydric Soil Indicators:							ains.	² Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils ³ :
Histosol (A1) Polyvalue Below Surface (S8) (LRR R,							RR,	2 cm Muck (A10) (LRR K, L, MLRA 149B)
Histic Epipedon (A2) MLRA 149B)							D 4 440D)	Coast Prairie Redox (A16) (LRR K, L, R)
Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L)) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Dark Surface (S7) (LRR K, L)	
Stratified Layers (A5) Loamy Gleyed Matrix (F2)								Polyvalue Below Surface (S8) (LRR K, L)
Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6)							Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R)	
Sandy Mucky Mineral (S1) — Depleted Dark Surface (F7)							Piedmont Floodplain Soils (F19) (MLRA 149B)	
Sandy Gleyed Matrix (S4) Redox Depressions (F8)							Mesic Spodic (TA6) (MLRA 144A, 145, 149B)	
Sandy Redox (S5) Stripped Matrix (S6)							Red Parent Material (F21) Very Shallow Dark Surface (TF12)	
Dark Surface (S7) (LRR R, MLRA 149B)							Other (Explain in Remarks)	
³ Indicators o	f hydrophyti	c vegetat	tion and we	etland hydrology mus	t be prese	ent, unless	disturbed	l or problematic.
Restrictive	Layer (if ob	served):			· ·			
Type: Depth (inches):								
	ches):							Hydric Soil Present? Yes No✓
Remarks: No hydri	c soil ind	dicator	rs obse	rved				
rto riyari	0 0011 1110	aioatoi	0 0000					



wasc003_u2_E



wasc003_u2_W

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: As	hland	Sampling Date: 2019-10-09
Applicant/Owner: Enbridge			
Investigator(s): BRG/JSW			
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests L			
Soil Map Unit Name: Sanborg-Badriver co			
Are climatic / hydrologic conditions on the site typical	• •	•	
Are Vegetation _ ✓ , Soil _ ✓ , or Hydrology			
Are Vegetation, Soil, or Hydrology		(If needed, explain any answe	
SUMMARY OF FINDINGS – Attach site	map showing sampling po	int locations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes <u>✓</u>		npled Area	
Hydric Soil Present? Yes	No within a W	/etland? Yes <u>√</u>	No
Wetland Hydrology Present? Yes <u>✓</u>		onal Wetland Site ID:	
Remarks: (Explain alternative procedures here or in The feature is a highly disturbed from	n a separate report.)	d in an actively plant	ed corn field. It is
sparsely vegetated and the planted		, ,	ed com neid. It is
Sparsory vegetated and the plantet	2 com camot grow in the	5 Wolland.	
HYDROLOGY		Casardani ladia	atoma (mainimanuma af tura ma muima di)
Wetland Hydrology Indicators:	ack all that apply)		ators (minimum of two required)
Primary Indicators (minimum of one is required; che			
	_ Water-Stained Leaves (B9) _ Aquatic Fauna (B13)	Drainage Pa Moss Trim L	
	Marl Deposits (B15)		Water Table (C2)
	Hydrogen Sulfide Odor (C1)	Crayfish Bu	
	_ Oxidized Rhizospheres on Living		/isible on Aerial Imagery (C9)
	Presence of Reduced Iron (C4)		Stressed Plants (D1)
	Recent Iron Reduction in Tilled S		
	Thin Muck Surface (C7)	Shallow Aqu	
	Other (Explain in Remarks)		aphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-Neutra	
Field Observations:			
	Depth (inches): 0.1		
	Depth (inches): 1		
Saturation Present? Yes ✓ No (includes capillary fringe)	Depth (inches): 0	Wetland Hydrology Prese	nt? Yes <u>√</u> No
Describe Recorded Data (stream gauge, monitoring	g well, aerial photos, previous inspec	tions), if available:	
	,		
Remarks:			
The hydrologic regime is seasonal	ly saturated. The wetlan	d receives runoff fro	m the surrounding
crop field, and water pools in tire ru	-		•
compaction.	ato that are present times	agriout the wettaria t	ade to son
Compaction.			

VEGETATION – Use scientific names of plants.

EGETATION – Use scientific names of plants				Sampling Point: wasc056e_w
Tree Stratum (Plot size: 30')	Absolute	Dominant Species?		Dominance Test worksheet:
1			·	Number of Dominant Species That Are OBL, FACW, or FAC:1 (A)
2				Total Number of Dominant
3				Species Across All Strata:1 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0.0	= Total Cov	/er	OBL species x 1 =0
Sapling/Shrub Stratum (Plot size:)				FACW species2 x 2 =4
1				FAC species5 x 3 =15
2				FACU species1 x 4 =4
3.				UPL species
4				Column Totals:8 (A)23 (B)
5				Prevalence Index = B/A = 2.88
6.				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
·		= Total Cov	· · · · · · · · · · · · · · · · · · ·	✓ 2 - Dominance Test is >50%
Herb Stratum (Plot size:5')	0.0	= Total Cov	/ei	3 - Prevalence Index is ≤3.0¹
1. Polygonum ramosissimum	5.0	<u>Y</u>	FAC	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. <u>Artemisia biennis</u>	2.0	N	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Geranium bicknellii</u>		N	_NI_	1
4. <u>Trifolium hybridum</u>			FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				
9				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	10	= Total Cov	/er	height.
Woody Vine Stratum (Plot size:)				
1				
2.				
3				Hydrophytic
4.				Vegetation
T		= Total Cov	/or	Present? Yes ✓ No
Remarks: (Include photo numbers here or on a separate		_ 10(a) 00		
The wetland is sparsely vegetated due		ocation i	in an ag	ricultural field, and as such only a few
weedy annuals are present. The plante			_	•
			-	

SOIL Sampling Point: wasc056e_w

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth		Matrix	0/	Color (n		K Features	- 1	Loc ²	Toyeture	Domostro
(inches) 0-14	Color (m		90	Color (n 7.5YR		10	Type'	M	Texture C	Prominent redox
14-20 2.5YR 3/4 95 2.5YR 4/6 5 C M C Distinct redox 1-Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. 1-Type: C=Concentration, D=Depletion Matrix MS=Masked Sand Grains. 1-Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. 1-Type: C=Concentration MS=Masked Sand Grains. 1-Type: C=Concentration MS=Masked Sand Grains. 1-Type: C=Concentration MS=Masked Sand Grains. 1-Type: C=Concentration MS=Masked Sand Grains. 1-Type: C=Concentration MS=Masked Sand Grains. 1-Type: C=Concentration MS=Masked Sand Grains. 1-Type: C=Concentration MS=Masked Sand Grains. 1-Type: C=Concentration MS=Masked Sand Grains. 1-								Distinct redox The Pore Lining, M=Matrix. The Froblematic Hydric Soils ³ : Muck (A10) (LRR K, L, MLRA 149B) Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L) Calue Below Surface (S8) (LRR K, L) Dark Surface (S9) (LRR K, L) Itanganese Masses (F12) (LRR K, L, R)		
Sandy C Sandy F Stripped	Mucky Mineral Gleyed Matrix Redox (S5) d Matrix (S6) urface (S7) (LI	(S4)	ILRA 149	Redox	ed Dark S Depressi	Surface (F ons (F8)	7)		Mesic Red P Very S	nont Floodplain Soils (F19) (MLRA 149B) Spodic (TA6) (MLRA 144A, 145, 149B) Farent Material (F21) Shallow Dark Surface (TF12) (Explain in Remarks)
	of hydrophytic	-	ion and w	etland hydro	logy mus	t be prese	nt, unles	s disturbed	or problemati	c.
Type:	Layer (II ODS	erveu).								
	nches):								Hydric Soil	Present? Yes No
Depth (inches): No										



wasc056e_w_E



wasc056e_w_W

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project	Evaluator(s): BRG/JSW		
File #: wasc056	Date of visit(s): 10/09/2019		
Location: PLSS: 046N-004W-07	Ecological Landsca Superior Coastal Plain	ape:	
Lat: <u>46.483408</u> Long: <u>-90.90392</u>	Watershed: LS10, White River		
County: Ashland Town/City/Village: White River town			
SITE DESCRIPTION			
Soils: Mapped Type(s):	WWI Class: N/A		
580B Sanborg-Badriver complex	Wetland Type(s): PEM - Fresh Wet Meadow		
Field Verified:			
Series not verified. Soils were clay throughout the profile.	Wetland Size: 0.04	Wetland Area Impacted 0.04	
•	Vegetation: Plant Community D	Description(s):	
Hydrology: The hydrologic regime is seasonally saturated, and the wetland receives runoff from the surrounding crop field.	Fresh wet mead weedy vegetatio	ow contains very sparse on. Corn was planted in the not grown except for several	

SITE MAP		

SECTION 1: Functional Value Assessment

HU Y/N Potential Human Use Values: recreation, culture, education, science, natural scenic beauty 1 N N Used for reducational or scientific purposes 3 N N Visually or physically accessible to public 4 N N Asshetically pleasing due to diversity of habitat types, lack of pollution or degradation 5 N N I or dijacent to RED FLAG areas 6 N N Supports or provides habitat for endangered, threatened or special concern species 7 In or adjacent to archaeological or cultural resource site WH WI Wildlife Habitat 1 N N Wetland and contiguous habitat 10 acres 2 N N N Supports or provides habitat for controlling the habitat area 1 N N Wetland and contiguous habitat 10 acres 2 N N N Supports or provides habitat for scover) 3 N N Within or adjacent to habitat corridor or established wildlife habitat area 4 N N 100 m buffer – natural land cover ≥50% (south) 75% (north) intact 5 N N 100 cours in a Joint Venture priority township 6 N N Interspersion of habitat structure (hemi-marh, shrub/emergent, wetland/upland complex, etc.) 8 N N Part of a large habitat block that supports area sensitive species 9 N Y Ephemeral pond with water present ≥45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed muditats present 12 N Y Provides habitat for amphibians and aquatic invertebrates 13 N N Nitroland is connected or contiguous with perennial stream or lake 14 N N Standing water provides habitat for amphibians and aquatic invertebrates 15 N N Nitroland is connected or contiguous with perennial stream or lake 16 N N Standing water provides habitat for amphibians and aquatic invertebrates 17 N N Wetland is connected or contiguous with perennial stream or lake 18 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 19 N N Standing water provides habitat for amphibians and aquatic invertebrates 2 N N Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 1			ECTION 1:	Functional Value Assessment
2 N N Used for educational or scientific purposes 3 N N V Isually or physically accessible to public 4 N N A sesthetically pleasing due to diversity of habitat types, lack of pollution or degradation 5 N N List: 6 N N Supports or provides habitat for endangered, threatened or special concern species 7 In or adjacent to archaeological or cultural resource site Wildlife Habitat Wildlife Habitat 1 N N Wetland and contiguous habitat >10 acres 2 N N 3 or more strata present (> 10% cover) 3 N N Within or adjacent to habitat corridor or established wildlife habitat area 4 N N 100 m buffer – natural land cover >50%(south) 75% (north) intact 5 N N Occurs in a Joint Venture priority forwship 6 N N Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex.etc.) 7 N Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N N P art of a large habitat block that supports area sensitive species 9 N Y Ephemeral pond with water present > 45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudiflats present 12 N Y Provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudiflats present 12 N Y Standing water provides habitat for amphibians and aquatic invertebrates 13 N N N Natural Heritage Inventory (NHI) isled aquatic species within aquatic system 14 N Y Vegetation is inundated in spring 15 Shorteline Protection 16 N N Along shoreline of a stream, lake, pond or open water area (>1 acre) - if no, not applicable 17 N N Along shoreline of a stream, lake, pond or open water area (>1 acre) - if no, not applicable 18 N N Dense, persistent vegetation 19 N Y Vegetation is inundated in spring 20 N N N Natural Heritage Inventory (NHI) isled aquatic species within aquatic system 21 N N Potential for recision due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable 21 N N Potential for hot or provides habitat	HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
3	1	Ν	N	Used for recreation (hunting, birding, hiking, etc.). List:
3	2	N	N	Used for educational or scientific purposes
A N Aesthetically pleasing due to diversity of habitat types, tack of pollution or degradation	3	N	N	
S N N	4			
S		- ' '	- 11	
Fig. Fig.	5	N	N	
In or adjacent to archaeological or cultural resource site Wildlife Habitat	6	N	N	
Wildlife Habitat		IN	IN	
1 N N Wetland and conliguous habbitat >10 acres 2 N N S or more strata present (>10% cover) 3 N N Within or adjacent to habitat corridor or established wildlife habitat area 4 N N 100 m buffer − natural land cover ≥50%(south) 75% (north) intact 5 N N Cocurs in a Joint Venture priority township 6 N N Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex,etc.) 7 N Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N N Part of a large habitat block that supports area sensitive species 9 N Y Ephemeral pond with water present ≥ 45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudiflats present 12 N Y Provides habitat scarce in the area (urban, agricultural, etc.) FA Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring SP Shoreline Protection 1 N N Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 N Potential for errosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows if no, not applicable 3 N N Dense, persistent vegetation 4 N N Dense, persistent vegetation 5 Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 4 N N Potential to hold > 10% of the runoff from contributing area from a 2-year 24-hour storm event 4 N N Potential to hold > 10% of the runoff from contributing area from a 2-year 24-hour storm event 4 N N Potential to hold > 10% of the runoff from contributing area from a 2-year 24-hour storm event 5 N N N Potential to hold > 10% of the runoff from contributing area from a 2-year				
2		NI	NI	
3	_			
4				
5 N N Occurs in a Joint Venture priority township 6 N N Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 7 N Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N N Part of a large habitat block that supports area sensitive species 9 N Y Ephemeral pond with water present ≥ 45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N P Provides habitat scarce in the area (urban, agricultural, etc.) FFA Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring SP Shoreline Protection <tr< td=""><td>$\overline{}$</td><td></td><td></td><td></td></tr<>	$\overline{}$			
For the content of the provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans				
Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans	$\overline{}$			
N	б	N	N	Interspersion of nabitat structure (nemi-marsn,shrub/emergent, wetland/upland complex,etc.)
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Se	ction 1 Con	nments (Refer to Section 1 numbers)
WH-9: water pools in ST-5: runoff from su	the wetland due to t	tire ruts and compacted soils
OT 6. Turion from 50	inounding drop hold	
14/		et and Cuasias Observation (including amphibians and contiles)
		at and Species Observation (including amphibians and reptiles) pservation, tracks, scat, other sign; type of habitat: nesting, migratory,
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Observed	Potential	Species/Habitat/Comments
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,		
Observed	Potential	Species/Habitat
	Υ	Frogs
	Υ	Aquatic invertebrates
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SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S47	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Polygonum ramosissimum			PEM	Uncommon
Polygonum ramosissimum Artemisia biennis			PEM	Uncommon
Geranium bicknelli			PEM	Uncommon
Trifolium hybridum			PEM	Rare

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The wetland is very sparsely vegetated, and weedy species are the only plants present. Outside of the survey area, the wetland becomes more vegetated and Phalaris arundinacea is abundant.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
Х	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
Х	Х		Н	С	Point source or stormwater discharge
Х	Х		Н	С	Polluted runoff
					Pond construction
Х	Х		Н	С	Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
	Х		M	С	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
Х	Х		M	С	Sediment input
				0	Removal of herbaceous stratum – mowing,
X	X		Н	С	grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
X	Х		Н	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The wetland is highly disturbed as a direct result of agricultural activity, and as such is of significantly degraded
quality.

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
Γ	Low	Medium	High	Exceptional	NA
Floristic Integrity	√				
Human Use Values	√				
Wildlife Habitat	√				
Fish and Aquatic Life Habitat	√				
Shoreline Protection					√
Flood and Stormwater Storage	√				
Water Quality Protection	√				
Groundwater Processes	√				

FUNCTION	RATIONALE
Floristic Integrity	Invasive, weedy species, sparse vegetation
Human Use Values	No discernable uses
Wildlife Habitat	Marginal avian habitat
Fish and Aquatic Life Habitat	Standing water often provides habitat, but polluted runoff decreases quality
Shoreline Protection	N/A
Flood and Stormwater Storage	Sparse vegetation, small wetland size
Water Quality Protection	See above
Groundwater Processes	Potential extended saturation

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: As	hland	Sampling Date: 2019-10-09
Applicant/Owner: Enbridge			
Investigator(s): BRG/JSW			
Landform (hillslope, terrace, etc.): Talf			
Subregion (LRR or MLRA): Northcentral Forests L			
Soil Map Unit Name: Sanborg-Badriver co			
Are climatic / hydrologic conditions on the site typica			
Are Vegetation ✓, Soil ✓, or Hydrology			
Are Vegetation, Soil, or Hydrology _			
SUMMARY OF FINDINGS – Attach site	map showing sampling po	int locations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes	No ✓ Is the Sam	npled Area	
	No within a W	/etland? Yes	No <u>√</u>
		onal Wetland Site ID:	_
Remarks: (Explain alternative procedures here or			
The upland sample point is located	u in a pianteu com neiu.		
HYDROLOGY			
Wetland Hydrology Indicators:		· · · · · · · · · · · · · · · · · · ·	ators (minimum of two required)
Primary Indicators (minimum of one is required; ch			
	Water-Stained Leaves (B9)	Drainage Pa	
	Aquatic Fauna (B13)	Moss Trim L	
	Marl Deposits (B15)	· · · · · · · · · · · · · · · · · · ·	Water Table (C2)
	Hydrogen Sulfide Odor (C1)Oxidized Rhizospheres on Living	Crayfish Bulk Roots (C3) Saturation V	/isible on Aerial Imagery (C9)
	Presence of Reduced Iron (C4)		Stressed Plants (D1)
1 - · · · · · · · -	Recent Iron Reduction in Tilled S		Position (D2)
	Thin Muck Surface (C7)	Shallow Aqu	
	Other (Explain in Remarks)		aphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		· -	I Test (D5)
Field Observations:			,
Surface Water Present? Yes No	/ Depth (inches):		
Water Table Present? Yes No	/ Depth (inches):		
	/ Depth (inches):	Wetland Hydrology Prese	nt? Yes No <u>√</u>
(includes capillary fringe) Describe Recorded Data (stream gauge, monitorin	ng well, aerial photos, previous inspec	L ctions), if available:	
33	3 - ,		
Remarks: No indicators of wetland hydrology	v were observed		
The indicators of Welland Hydrology	, word about vod.		

VEGETATION – Use scientific names of plants.

Tree Obstance (Distriction 20)	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30')	% Cover Species? Status	Number of Dominant Species
1		That Are OBL, FACW, or FAC:(A)
2		Total Number of Dominant Species Across All Strata: 1.0 (B)
3		Species Across All Strata:(B)
4		Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)
5		That Ale OBE, I ACW, of I AC. (A/B)
6		Prevalence Index worksheet:
7	- —— ——— ———	Total % Cover of: Multiply by:
		OBL species x 1 =0.0
Sapling/Shrub Stratum (Plot size:)		FACW species x 2 =0.0
1		FAC species 0.0 x 3 = 0.0
2		FACU species x 4 = UPL species x 5 = 0.0
3		Column Totals: 0.0 (A) 0.0 (B)
4		
5	· · ·	Prevalence Index = B/A = 0.0
6		Hydrophytic Vegetation Indicators:
7		1 - Rapid Test for Hydrophytic Vegetation
	= Total Cover	2 - Dominance Test is >50%
Herb Stratum (Plot size:5')		3 - Prevalence Index is ≤3.0 ¹
1. Zea mays	90.0 Y NI	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2		Problematic Hydrophytic Vegetation ¹ (Explain)
3.		1
4		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5		Definitions of Vegetation Strata:
6		
7		Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8		Sapling/shrub – Woody plants less than 3 in. DBH
9		and greater than or equal to 3.28 ft (1 m) tall.
10		Herb – All herbaceous (non-woody) plants, regardless
11.		of size, and woody plants less than 3.28 ft tall.
12.		Woody vines – All woody vines greater than 3.28 ft in
	= Total Cover	height.
Woody Vine Stratum (Plot size:30')		
1		
2		
3		Hydrophytic Vegetation
4		Present? Yes No✓_
Pomorko: (Ingludo photo numbero baro er en a congreta	= Total Cover	
Remarks: (Include photo numbers here or on a separate: The upland is dominated by planted co		
, , , , ,		

Sampling Point: wasc056_u

SOIL Sampling Point: wasc056_u

Profile Desc	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of ir	ndicators.)
Depth	Matrix	0/		x Features		1.2.2	Tandona	Damadia
(inches) 0-18	7.5YR 3/3	100	Color (moist)	%	Type'	Loc ²	<u>Texture</u>	Remarks
	2.5YR 3/4						SCL	
10-20	2.511 3/4	100		·			JOL _	
		· -						
				· 				
		· -						
		· -						
		· <u></u> -						
	oncentration, D=Dep	letion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	² Location: PL	=Pore Lining, M=Matrix.
Hydric Soil Histosol			Polyvalue Belov	u Curfoco	(CO) /I DI	D D		Problematic Hydric Soils ³ : (A10) (LRR K, L, MLRA 149B)
	pipedon (A2)	-	MLRA 149B)		(30) (LKI	κκ,		rie Redox (A16) (LRR K, L, R)
	istic (A3)	-	Thin Dark Surfa					y Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4) d Layers (A5)	-	Loamy Mucky N Loamy Gleyed			, L)		ce (S7) (LRR K, L) Below Surface (S8) (LRR K, L)
Deplete	d Below Dark Surface	e (A11)	Depleted Matrix	(F3)	,		Thin Dark S	Surface (S9) (LRR K, L)
	ark Surface (A12) Mucky Mineral (S1)	-	Redox Dark Su Depleted Dark \$		7)		_	anese Masses (F12) (LRR K, L, R) Floodplain Soils (F19) (MLRA 149B)
	Gleyed Matrix (S4)	-	Redox Depress		')			dic (TA6) (MLRA 144A, 145, 149B)
	Redox (S5) I Matrix (S6)							t Material (F21) ow Dark Surface (TF12)
	rface (S7) (LRR R, N	ILRA 149B)					lain in Remarks)
	f hydrophytic vegetat		tland hydrology mus	st be prese	ent, unless	disturbed	or problematic.	
Restrictive Type:	Layer (if observed):							
	ches):		<u> </u>				Hydric Soil Pres	sent? Yes No/_
Remarks:								
No hydri	c soil indicator	s were	observed. So	ils are	disturk	ed by t	illing.	



wasc056_u_N



wasc056_u_W

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: As	shland	Sampling Date: 2019-10-09
Applicant/Owner: Enbridge			
Investigator(s): BRG/JSW			
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests			
Soil Map Unit Name: Odanah silt loam, 2	·		
Are climatic / hydrologic conditions on the site typic			
Are Vegetation, Soil, or Hydrology _			
Are Vegetation, Soil, or Hydrology _	naturally problematic?	(If needed, explain any answ	ers in Remarks.)
SUMMARY OF FINDINGS - Attach site	e map showing sampling po	oint locations, transect	s, important features, etc.
Lhydrophytic Vegetation Present?	/ No Is the Sa	mpled Area	
		Wetland? Yes <u>√</u>	No
		tional Wetland Site ID:	
Remarks: (Explain alternative procedures here of	r in a separate report.)		
The wetland is a small closed dep	oressional basin, with a h	nardwood swamp cla	ssification type.
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indic	cators (minimum of two required)
Primary Indicators (minimum of one is required; c	heck all that apply)	Surface Soi	l Cracks (B6)
Surface Water (A1)	✓ Water-Stained Leaves (B9)	Drainage Pa	
	Aquatic Fauna (B13)	Moss Trim I	
✓ Saturation (A3)	Marl Deposits (B15)	Dry-Seasor	n Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Bu	rrows (C8)
	Oxidized Rhizospheres on Living	g Roots (C3) Saturation \	/isible on Aerial Imagery (C9)
. , ,	Presence of Reduced Iron (C4)		Stressed Plants (D1)
	Recent Iron Reduction in Tilled S		
	Thin Muck Surface (C7)	Shallow Aq	
	Other (Explain in Remarks)		raphic Relief (D4)
Sparsely Vegetated Concave Surface (B8) Field Observations:		FAC-Neutra	ai lest (D5)
	Depth (inches): 0.2		
	✓ Depth (inches):		
	Depth (inches): 0		ent? Yes <u>√</u> No
(includes capillary fringe)			103 <u>v</u> 100
Describe Recorded Data (stream gauge, monitori	ng well, aerial photos, previous inspe	ections), if available:	
Remarks:			
The hydrologic regime is seasona	ally flooded, with recharg	e hydrology. The mid	ddle of the wetland
stays inundated for extended peri	ods of time, likely due to	poorly drained soils	
	-		
•			1

VEGETATION – Use scientific names of plants.

/EGETATION – Use scientific names of plants				Sampling Point: wasc058f_w
Tree Stratum (Plot size:30')	Absolute % Cover	Dominant Species?		Dominance Test worksheet: Number of Dominant Species
1. <u>Fraxinus nigra</u>	_50.0_	Y	<u>FACW</u>	That Are OBL, FACW, or FAC:4 (A)
 Populus tremuloides 				Total Number of Dominant Species Across All Strata: 4 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	60.0	= Total Cov	/er	OBL species22 x 1 =22
Sapling/Shrub Stratum (Plot size:)				FACW species90 x 2 =180
1. <u>Ilex verticillata</u>	30.0	Y	<u>FACW</u>	FAC species x 3 = 30
2				FACU species 5 x 4 = 20
3				UPL species $0 \times 5 = 0$
4				Column Totals:(A)(B)
5				Prevalence Index = B/A = 1.98
6.				Hydrophytic Vegetation Indicators:
7				✓ 1 - Rapid Test for Hydrophytic Vegetation
		= Total Cov		∠ 2 - Dominance Test is >50%
Harb Stratum (Blat size) 5'	30.0	= Total Cov	/ei	3 - Prevalence Index is ≤3.01
Herb Stratum (Plot size: 5') 1. Carex Iupulina	_10.0_	Υ	OBL	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Fraxinus nigra		Y	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Carex gracillima		N	FACU	
4. Scutellaria lateriflora		N	OBL	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. Calamagrostis canadensis	0.0	N	OBL	
6. Iris versicolor		N	OBL	Definitions of Vegetation Strata:
7. Lycopus uniflorus			OBL	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
8. Potamogeton sp.			OBL	at breast height (DBH), regardless of height.
9			OBL	Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				
12				Woody vines – All woody vines greater than 3.28 ft in height.
	37	= Total Cov	/er	noight.
Woody Vine Stratum (Plot size: 30')				
1				
2				
3				Hydrophytic
4				Vegetation
		= Total Cov		Present? Yes No
Remarks: (Include photo numbers here or on a separate	sheet.)			1
The wetland is dominated by a canopy		nus nig	ra, with	a somewhat sparse herbaceous layer
due to frequent inundation by standing	water.			

US Army Corps of Engineers

SOIL Sampling Point: wasc058f_w

Profile Desc	cription: (D	escribe t	to the dep	th needed	to docun	nent the ir	ndicator	or confirm	the absence	of indicators.)
Depth (inches)	Color (r	Matrix	%	Color (r		<u>k Features</u> %	Type ¹	Loc ²	Texture	Remarks
0-3		2/1	100	00101 (1	<u> </u>		1,750		MP	romano
3-14	10YR	5/1		5YR	3/4	5	С	M	С	Prominent redox
14-20	5YR	4/4	95	5YR	5/8	_5_	С	_M_	С	Prominent redox
	-									
Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Back Histic (A3) Depleted Dark Surface (F6) Brick Dark Surface (A12) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6)							Indicators 2 cm M Coast 5 cm M Dark S Polyva Thin D Iron-M Piedm Mesic Red P Very S Other	PL=Pore Lining, M=Matrix. for Problematic Hydric Soils ³ : Muck (A10) (LRR K, L, MLRA 149B) Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R) Burface (S7) (LRR K, L) Burface (S9) (LRR K, L) Bark Surface (S9) (MLRA 149B) Spodic (TA6) (MLRA 144A, 145, 149B) Barent Material (F21) Bhallow Dark Surface (TF12) (Explain in Remarks)		
Туре:									Uhrdaia Cail	Present? Yes _ / No
Remarks: Soils are	reduce						i.			



wasc058f_w_E



wasc058f_w_N

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION				
Project name:	Evaluator(s):			
Line 5 Relocation Project	BRG/JSW			
File #:	Date of visit(s):			
wasc058	10/09/2019			
Location:	Ecological Landsca	ipe:		
PLSS: <u>046N-004W-08</u>	Superior Coastal Plain			
	Ouperior Obastai i iain			
Lat: <u>46.482217</u> Long: <u>-90.902941</u>	Watershed: LS10, White River			
County: Ashland Town/City/Village: White River town				
SITE DESCRIPTION				
Soils:	WWI Class:			
Mapped Type(s):	N/A			
280F Odanah silt loam, 580B Sanborg-Badriver complex	Wetland Type(s):			
	PFO - Hardwood Swamp			
Field Verified:		'		
Series not verified. Soils were mucky peat above	Wetland Size:	Wetland Area Impacted		
clay.	0.02	0.02		
•	Vegetation:			
	Plant Community D	escription(s):		
Hydrology:	Hardwood swamp is dominated by Fraxinus			
The hydrologic regime is seasonally flooded, with	nigra, with a shrub layer of llex verticillata and			
recharge hydrology. The wetland is inundated for	• •			
extended periods of time.	•	a somewhat sparse herbaceous layer due to		
exteriaca periodo di time.	ponding.			

SITE MAP

SECTION 1: Functional Value Assessment

	SECTION 1: Functional Value Assessment							
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty					
1	N	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Hunting					
2	Ν	N	Used for educational or scientific purposes					
3	Ν	N	Visually or physically accessible to public					
4	N	Υ	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation					
_			In or adjacent to RED FLAG areas					
5	N	N	List:					
6	N	N	Supports or provides habitat for endangered, threatened or special concern species					
7			In or adjacent to archaeological or cultural resource site					
WH			Wildlife Habitat					
1	N	N	Wetland and contiguous habitat >10 acres					
2	Y	Y	3 or more strata present (>10% cover)					
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area					
4	N	Y	100 m buffer – natural land cover >50%(south) 75% (north) intact					
5	N	N	Occurs in a Joint Venture priority township					
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)					
	IN	IN	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other					
7	Ν	Υ	plans					
0			Part of a large habitat block that supports area sensitive species					
8	N	N	• '' '					
9	Y	Y	Ephemeral pond with water present > 45 days					
10	Y	Y	Standing water provides habitat for amphibians and aquatic invertebrates					
11	N	N	Seasonally exposed mudflats present					
12	N	Y	Provides habitat scarce in the area (urban, agricultural, etc.)					
FA			Fish and Aquatic Life Habitat					
1	N	N	Wetland is connected or contiguous with perennial stream or lake					
2	Υ	Y	Standing water provides habitat for amphibians and aquatic invertebrates					
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system					
4	Υ	Υ	Vegetation is inundated in spring					
SP			Shoreline Protection					
1	Ν	N	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable					
2	N.I		Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating					
	N	N	water levels or high flows – if no, not applicable					
3	Ν	N	Densely rooted emergent or woody vegetation					
ST			Storm and Floodwater Storage					
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream					
2	Υ	Υ	Water flow through wetland is NOT channelized					
3	Υ	Υ	Dense, persistent vegetation					
4	N	N	Evidence of flashy hydrology					
5	N	Y	Point or non-point source inflow					
6	N	N	Impervious surfaces cover >10% of land surface within the watershed					
7	N	N	Within a watershed with ≤10% wetland					
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event					
WQ	. 4		Water Quality Protection					
1	Υ	Υ	Provides substantial storage of storm and floodwater based on previous section					
2	Y	Y	Basin wetland or constricted outlet					
3	Y	Y	Water flow through wetland is NOT channelized					
4	N	N	Vegetated wetland associated with a lake or stream					
5	Y	Y	Dense, persistent vegetation					
6		N N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth					
7	N		Stormwater or surface water from agricultural land is major hydrology source					
$\overline{}$	N	Y						
8	N	N	Discharge to surface water					
9	N	N	Natural land cover in 100m buffer area < 50%					
GW			Groundwater Processes					
1	Ν	N	Springs, seeps or indicators of groundwater present					
2	N	N	Location near a groundwater divide or a headwater wetland					
3	Ν	Υ	Wetland remains saturated for an extended time period with no additional water inputs					
4	Υ	Υ	Wetland soils are organic					
5	N	N	Wetland is within a wellhead protection area					

		nments (Refer to Section 1 numbers)
HU-1: Ilex verticillata	provides good deer	habitat, and bear tracks are present nearby eithout the ground slowly, and standing water is frequently present in the center of the wetland
ST-5: nearby agricu		s into the ground storny, and standing water is nequently present in the center of the wettand
Wi	Idlife Habita	at and Species Observation (including amphibians and reptiles)
		oservation, tracks, scat, other sign; type of habitat: nesting, migratory,
Wi	nter, etc.	
	1 =	
Observed	Potential	Species/Habitat/Comments
	Y	Deer
	Υ	Avian
	1	
Fis	sh and Aqua	atic Life Habitat and Species Observations
Lis	st: direct ob	oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observed	Potential	Species/Habitat
	Υ	Frogs
	Υ	Aquatic invertebrates
	Y	Amphibians
1	I	

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

Traine Community intogrety (Circle)								
	Low	Medium	High	Exceptional				
Invasive species cover	> 50%	20-50%	10-20%	<10%				
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented				
NHI plant community ranking	S4	S3√	S2	S1-S2 (S2 high quality)				
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare				
FQI (optional)	<13	13-23	23-32	>32				
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7				

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Fraxinus nigra			PFO	Abundant
Populus tremuloides			PFO	Common
llex verticillata			PFO	Common
Carex lupulina			PFO	Common
Fraxinus nigra			PFO	Common
Carex gracillima			PFO	Uncommon
Scutellaria lateriflora			PFO	Uncommon
Calamagrostis canadensis			PFO	Uncommon
Iris versicolor			PFO	Uncommon
Lycopus uniflorus			PFO	Uncommon
Potamogeton sp.			PFO	Rare

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The wetland contains no invasive species and is typical for the hardwood swamp wetland plant community.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
	Х		L	С	Point source or stormwater discharge
	Х		L	С	Polluted runoff
					Pond construction
	Х		M	С	Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
	V		D.4	0	Removal of herbaceous stratum – mowing,
	X		M	С	grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
	Х		L	U	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

רן	The wetland itself is not significantly stressed, but stressors are present in the buffer due to the nearby corn field.

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION	SIGNIFICANCE								
	Low	Medium	High	Exceptional	NA				
Floristic Integrity			√						
Human Use Values		✓							
Wildlife Habitat		✓							
Fish and Aquatic Life Habitat			√						
Shoreline Protection					√				
Flood and Stormwater Storage			√						
Water Quality Protection			√						
Groundwater Processes	√								

FUNCTION	RATIONALE
Floristic Integrity	No invasives, good assemblage of native species
Human Use Values	Hunting potential
Wildlife Habitat	Deer habitat
Fish and Aquatic Life Habitat	Wetland frequently provides standing water
Shoreline Protection	N/A
Flood and Stormwater Storage	Potential to store crop field runoff, closed vegetated basin
Water Quality Protection	See above
Groundwater Processes	Slow groundwater recharge

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County:	Ashland	Sampling Date: 2019-10-09		
-			Sampling Point: wasc057_u		
Investigator(s): JSW/BRG	Section, Tov	vnship, Range: 046N-004W	-08		
Landform (hillslope, terrace, etc.): Talf					
Subregion (LRR or MLRA): Northcentral Forests L					
Soil Map Unit Name: Sanborg-Badriver co					
Are climatic / hydrologic conditions on the site typica					
Are Vegetation, Soil, or Hydrology					
Are Vegetation, Soil, or Hydrology					
SUMMARY OF FINDINGS – Attach site	map showing sampling	point locations, transec	ts, important features, etc.		
Hydrophytic Vegetation Present? Yes	No✓ Is the	Sampled Area			
	No ✓ withi	n a Wetland? Yes	No <u> </u>		
Wetland Hydrology Present? Yes		, optional Wetland Site ID:	_		
Remarks: (Explain alternative procedures here or	in a separate report.)	of a sound field. This soun			
The upland is located in a young for	orest near the edge c	n a com neid. This san	npie point is snared		
with wetland wasc058f.					
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary Ind	icators (minimum of two required)		
Primary Indicators (minimum of one is required; che	eck all that apply)	Surface So	oil Cracks (B6)		
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage F	Patterns (B10)		
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim	Moss Trim Lines (B16)		
	Marl Deposits (B15)	-	on Water Table (C2)		
	_ Hydrogen Sulfide Odor (C1)		urrows (C8)		
	 Oxidized Rhizospheres on L 		Visible on Aerial Imagery (C9)		
	Presence of Reduced Iron (Stressed Plants (D1)		
	Recent Iron Reduction in Til		ic Position (D2)		
	Thin Muck Surface (C7)	Shallow A			
Inundation Visible on Aerial Imagery (B7)	_ Other (Explain in Remarks)		graphic Relief (D4)		
Sparsely Vegetated Concave Surface (B8)		FAC-Neuti	ral Test (D5)		
Field Observations:					
	Depth (inches):				
	Depth (inches):				
Saturation Present? Yes No _✓ (includes capillary fringe)	Depth (inches):	Wetland Hydrology Pres	ent? Yes No <u>√</u>		
Describe Recorded Data (stream gauge, monitoring	g well, aerial photos, previous i	nspections), if available:			
Remarks:					
No indicators of wetland hydrology	were observed.				
,					

Trop Stratum (Plataire: 20'	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30')		Species?		Number of Dominant Species
1. Populus tremuloides			FAC	That Are OBL, FACW, or FAC:3.0 (A)
2. Acer rubrum				Total Number of Dominant Species Across All Strata: 6.0 (B)
3. <u>Picea glauca</u>				Species Across All Strata:
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 (A/B)
5				That Ale OBE, I AGW, OF I AC.
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	<u>100.0</u>	= Total Co	ver	OBL species <u>5.0</u> x 1 = <u>5.0</u>
Sapling/Shrub Stratum (Plot size: 15')				FACW species 0.0 x 2 = 0.0
1. <u>Fraxinus americana</u>	25.0	<u>Y</u>	<u>FACU</u>	FAC species 105.0 x 3 = 315.0 FACU species 60.0 x 4 = 240.0
2				UPL species 50.0 x5 = 250.0
3				Column Totals: 220.0 (A) 810.0 (B)
4				
5				Prevalence Index = B/A =3.7
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	25.0	= Total Co	ver	2 - Dominance Test is >50%
Herb Stratum (Plot size:5')				3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting
1. <u>Eurybia macrophylla</u>	50.0	Y	UPL	data in Remarks or on a separate sheet)
2. Cornus racemosa		<u> </u>	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Poa pratensis</u>	10.0	N	<u>FACU</u>	¹ Indicators of hydric soil and wetland hydrology must
4. Calamagrostis canadensis		N	OBL	be present, unless disturbed or problematic.
5. <u>Symphyotrichum lateriflorum</u>	5.0	N	FAC	Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb - All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	95.0	= Total Co	ver	height.
Woody Vine Stratum (Plot size: 30')				
1				
2				
3				Hydrophytic
4				Vegetation Present? Yes No _ ✓
	0.0	= Total Co	ver	Tresent: TesNo
Remarks: (Include photo numbers here or on a separate The upland is dominated by quaking as	sheet.) spen and	d large-	leaved a	aster.

Sampling Point: wasc057_u

SOIL Sampling Point: wasc057_u

Profile Desc	cription: (Describe t	o the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of i	ndicators.)
Depth (inches)	Matrix Color (moist)	%	Redo Color (moist)	x Features %	Type ¹	Loc ²	Texture	Remarks
(inches)	7.5YR 2.5/3		Color (moist)	70	туре	LUC	CI	Remarks
6-20	2.5YR 3/4						<u> </u>	
0-20	2.0111 0/4	100						
				·				
				·				
				· ——				
				. ———				
				·				
				·				
	oncentration, D=Deple	etion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	² Location: Pl	_=Pore Lining, M=Matrix.
Hydric Soil Histosol			Polyvalue Belov	w Surface	(S8) (I D E	D D		Problematic Hydric Soils ³ : (A10) (LRR K, L, MLRA 149B)
	pipedon (A2)		MLRA 149B)		(50) (EIXI	、 1 、 ,		rie Redox (A16) (LRR K, L, R)
	istic (A3)		Thin Dark Surfa					ty Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4) d Layers (A5)		Loamy Mucky N Loamy Gleyed I			, ∟)		ce (S7) (LRR K, L) Below Surface (S8) (LRR K, L)
-	d Below Dark Surface	(A11)	Depleted Matrix					Surface (S9) (LRR K, L)
	ark Surface (A12) Mucky Mineral (S1)		Redox Dark Su Depleted Dark S		7)		_	anese Masses (F12) (LRR K, L, R) Floodplain Soils (F19) (MLRA 149B)
Sandy 0	Gleyed Matrix (S4)		Redox Depress		• ,		Mesic Spo	dic (TA6) (MLRA 144A, 145, 149B)
	Redox (S5) d Matrix (S6)							t Material (F21) ow Dark Surface (TF12)
	rface (S7) (LRR R, M	LRA 149B)					lain in Remarks)
	f hydrophytic vegetati	on and we	tland hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
	Layer (if observed):							
Type:	ches):						Hydric Soil Pre	sent? Yes No/_
Remarks:								
No indica	ators of hydric	soil we	re observed.					



wasc057 u N



wasc057_u_W

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project 0	City/County: <u>Ashland</u> Sampling Date: <u>2019-10-09</u>
•	State: WI Sampling Point: wasc057e_w
_	Section, Township, Range: <u>046N-004W-08</u>
	al relief (concave, convex, none): Concave Slope (%): 0-2%
	Long: -90.903156 Datum: WGS84
	percent slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year	·
	listurbed? Are "Normal Circumstances" present? Yes ✓ No
Are Vegetation, Soil, or Hydrology naturally probability for the vegetation, Soil, Soil, or Hydrology naturally probability for the vegetation, Soil, Soil, or Hydrology naturally probability for the vegetation, Soil	
SUMMARY OF FINDINGS – Attach site map showing	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes✓ No	Is the Sampled Area
Hydric Soil Present? Yes _ ✓ No	within a Wetland? Yes No
Wetland Hydrology Present? Yes No	If yes, optional Wetland Site ID:
Remarks: (Explain alternative procedures here or in a separate report	.) ed in a closed basin and surrounded by disturbed
mesic forest.	ed in a closed basin and surrounded by disturbed
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	` , ,
Surface Water (A1) Water-Stained L	· · ·
High Water Table (A2) Aquatic Fauna (I	
Saturation (A3) Marl Deposits (B Water Marks (B1) Hydrogen Sulfide	
	e Odor (C1) Crayfish Burrows (C8) pheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Sediment Deposits (B2) Oxidized Knizos Oxidized Knizos Presence of Rec	
	uction in Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck Surfa	
Inundation Visible on Aerial Imagery (B7) Other (Explain ir	
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No ✓ Depth (inches):	
Water Table Present? Yes No Depth (inches):	
Saturation Present? Yes No ✓ Depth (inches):	Wetland Hydrology Present? Yes No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos	previous inspections) if available:
December Necestated Batta (ettoam gauge, memering won, acrtai priotec	, provided inopositions, if available.
Remarks: The hydrologic regime is seasonally saturated,	with recharge bydrology
The Hydrologic regime is seasonally saturated,	with recharge hydrology.

VEGETATION – Use scientific names of plants.

FAC OBL OBL FACW FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC:
FAC OBL OBL FACW	That Are OBL, FACW, or FAC:4 (A) Total Number of Dominant Species Across All Strata:4 (B) Percent of Dominant Species That Are OBL, FACW, or FAC:100.00
FAC OBL OBL FACW	Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00
FAC OBL FACW	Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00
FAC OBL FACW	That Are OBL, FACW, or FAC:
FAC OBL FACW	Prevalence Index worksheet:
FAC OBL FACW	Total % Cover of: OBL species 60 x 1 = 60 FACW species 14 x 2 = 28 FAC species 7 x 3 = 21 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column Totals: 81 (A) 109 (B) Prevalence Index = B/A = 1.35 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)
FAC OBL OBL FACW	OBL species 60 x 1 = 60 FACW species 14 x 2 = 28 FAC species 7 x 3 = 21 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column Totals: 81 (A) 109 (B) Prevalence Index = B/A = 1.35 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)
FAC OBL OBL FACW	FACW species 14 x 2 = 28 FAC species 7 x 3 = 21 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column Totals: 81 (A) 109 (B) Prevalence Index = B/A = 1.35 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)
over OBL OBL FACW	FAC species 7 x 3 = 21 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column Totals: 81 (A) 109 (B) Prevalence Index = B/A = 1.35 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)
over OBL OBL FACW	FACU species
OBL OBL FACW	UPL species 0 x 5 = 0 Column Totals: 81 (A) 109 (B) Prevalence Index = B/A = 1.35 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)
OBL OBL FACW	Column Totals:81(A)109(B) Prevalence Index = B/A =1.35 Hydrophytic Vegetation Indicators:1 - Rapid Test for Hydrophytic Vegetation2 - Dominance Test is >50%3 - Prevalence Index is ≤3.0¹4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)
OBL OBL FACW	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)
OBL OBL FACW	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)
OBL OBL FACW	1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)
OBL OBL FACW	∠ 2 - Dominance Test is >50% ∠ 3 - Prevalence Index is ≤3.0¹ ∠ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) ∠ Problematic Hydrophytic Vegetation¹ (Explain)
OBL OBL FACW	3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)
OBL FACW	4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)
OBL FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
FACW	
	Indicators of hydric soil and wotland hydrology must
171011	be present, unless disturbed or problematic.
FACW	
FAC	Definitions of Vegetation Strata:
	Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
	Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
	Herb – All herbaceous (non-woody) plants, regardless
	of size, and woody plants less than 3.28 ft tall.
	Woody vines – All woody vines greater than 3.28 ft in
over	height.
	Hydrophytic
	Vegetation
over	Present? Yes No
	over over

SOIL Sampling Point: wasc057e_w

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth (inches)	Color (m	Matrix	%	Color (n		K Features	Type ¹	Loc ²	Texture	Remarks
0-8	10YR			5YR	3/4	<u></u> 5	С	M		Prominent redox
			·				C		<u> </u>	
	Indicators:	, D=Depl		Polyva	Matrix, MS	v Surface	(S8) (LR I	R R,	Indicators 2 cm I Coast	Prominent redox PL=Pore Lining, M=Matrix. For Problematic Hydric Soils ³ : Muck (A10) (LRR K, L, MLRA 149B) Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R)
Hydroge Stratified Depleted Thick Do Sandy M Sandy G Sandy F Stripped	Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Dark Surface (S7) (LRR K, L) Polyvalue Below Surface (S8) (LRR IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII					Surface (S7) (LRR K, L) alue Below Surface (S8) (LRR K, L) Dark Surface (S9) (LRR K, L) Manganese Masses (F12) (LRR K, L, R) nont Floodplain Soils (F19) (MLRA 149B) Spodic (TA6) (MLRA 144A, 145, 149B) Parent Material (F21) Shallow Dark Surface (TF12)				
		_	on and w	etland hydro	logy mus	t be prese	nt, unles	s disturbed o	or problemati	С.
Restrictive	Layer (if obs	served):								
Type: Depth (in	ches):								Hydric Soi	I Present? Yes/ No
Remarks: The soil	profile co	ontain	s redo:	k throug	hout.					



wasc057e_w_E



wasc057e_w_W

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION				
Project name:	Evaluator(s):			
Line 5 Relocation Project	BRG/JSW			
File #:	Date of visit(s):			
wasc057	10/09/2019			
Location:	Ecological Landscape:			
PLSS: <u>046N-004W-08</u>	Superior Coastal Plain			
	Superior Coastal Flairi			
Lat: <u>46.482136</u> Long: <u>-90.903142</u>	Watershed: LS10, White River			
O A A L L T (O) A (III A Miles Diverteurs	LS10, Write River			
County: Ashland Town/City/Village: White River town				
SITE DESCRIPTION				
Soils:	WWI Class:			
Mapped Type(s):	N/A			
580B Sanborg-Badriver complex	Wetland Type(s):			
	PEM - Fresh Wet Meadow			
Field Verified:				
Series not verified. Soils were silty clay above	Wetland Size:	Wetland Area Impacted		
clay.	0.02	0.02		
, and the second	Vegetation:			
	Plant Community D	Description(s):		
Hydrology:	Fresh wet meadow is dominated by			
The hydrologic regime is seasonally saturated,				
with recharge hydrology.	Calamagrostis canadensis and Scirpus			
with recharge frydrology.	cyperinus.			

 SITE MAP	

SECTION 1: Functional Value Assessment

	S		Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Ν	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
2	N	N	Used for educational or scientific purposes
3	N	N	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
_			In or adjacent to RED FLAG areas
5	Ν	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	- 14	114	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N	N N	100 m buffer – natural land cover >50%(south) 75% (north) intact
5			Occurs in a Joint Venture priority township
6	N_	N	
0	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	Ν	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present > 45 days
10	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	Υ	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	Ν	N	Wetland is connected or contiguous with perennial stream or lake
2	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	N	N	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	N	N	water levels or high flows – if no, not applicable
3	N	N	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Y	Ϋ́	Water flow through wetland is NOT channelized
3	Y	Y	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	N	Y	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7			Within a watershed with <10% wetland
-	N_	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
8 WQ	N	N	Water Quality Protection
		\/	
1	<u>Y</u>	Y	Provides substantial storage of storm and floodwater based on previous section
2	<u>Y</u>	Y	Basin wetland or constricted outlet
3	<u>Y</u>	Y	Water flow through wetland is NOT channelized
4	N	N	Vegetated wetland associated with a lake or stream
5	Υ	Y	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	Υ	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area
	IN	I IN	Welland to Willing a Wellinead protection area

		himents (Refer to Section 1 numbers)
U-1: ilex verticiliata ST-5: nearby agricu		habitat, and bear tracks are present nearby
Wi	Idlife Habita	at and Species Observation (including amphibians and reptiles)
l is	st: direct of	oservation, tracks, scat, other sign; type of habitat: nesting, migratory,
	nter, etc.	socivation, tracks, sout, other sign, type of habitat: hesting, inigratory,
VV I	inter, etc.	
Ohaamiasi	Detential	Charles/Habitat/Comments
Observed	Potential	Species/Habitat/Comments
	Υ	Deer
	Υ	Avian
	+	
	ļ	
Fis	sh and Aqua	atic Life Habitat and Species Observations
		oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
		, 5 , ,,
Observed	Potential	Species/Habitat
C D G C I V G C	Y	
		Frogs
	Υ	Aquatic invertebrates
	+	
	ļ	
_		

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

Trans Community integrity (circle)						
	Low	Medium	High	Exceptional		
Invasive species cover	> 50%	20-50%	10-20%	<10%√		
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented		
NHI plant community ranking	S4 🗸	S3 🗌	S2	S1-S2 (S2 high quality)		
Relative frequency of plant community in watershed	nt community in		Uncommon	Rare		
FQI (optional)	<13	13-23	23-32	>32		
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7		

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
Fraxinus nigra			PEM	Uncommon
Acer rubrum			PEM	Uncommon
Calamagrostis canadensis			PEM	Common
Scirpus cyperinus			PEM	Common
llex verticillata			PEM	Uncommon
Rubus pubescens			PEM	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The wetland contains no invasive species but has low species diversity. Minimal tree and shrub cover is present.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
	Х		M	С	Point source or stormwater discharge
	Х		M	С	Polluted runoff
					Pond construction
	Х		M	С	Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
	V		D.4	0	Removal of herbaceous stratum – mowing,
	X		M	С	grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
	Х		L	U	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

	The wetland itself is not significantly stressed, but stressors are present in the buffer due to the nearby corn field.
Į	

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
Γ	Low	Medium	High	Exceptional	NA
Floristic Integrity		✓			
Human Use Values		√			
Wildlife Habitat		√			
Fish and Aquatic Life Habitat		✓			
Shoreline Protection					√
Flood and Stormwater Storage			√		
Water Quality Protection			√		
Groundwater Processes	√				

FUNCTION	RATIONALE
Floristic Integrity	Low species diversity, but no invasive species
Human Use Values	Hunting potential
Wildlife Habitat	Deer habitat
Fish and Aquatic Life Habitat	Some potential when the wetland is inundated
Shoreline Protection	N/A
Flood and Stormwater Storage	Potential to store crop field runoff, closed vegetated basin
Water Quality Protection	See above
Groundwater Processes	Groundwater recharge

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County:	Ashland	Sampling Date: 2019-10-09			
-			Sampling Point: wasc057_u			
Investigator(s): JSW/BRG	Section, Tov	vnship, Range: 046N-004W	-08			
		Local relief (concave, convex, none): None Slope (
Subregion (LRR or MLRA): Northcentral Forests L						
Soil Map Unit Name: Sanborg-Badriver co						
Are climatic / hydrologic conditions on the site typica						
Are Vegetation, Soil, or Hydrology						
Are Vegetation, Soil, or Hydrology						
SUMMARY OF FINDINGS – Attach site	map showing sampling	point locations, transec	ts, important features, etc.			
Hydrophytic Vegetation Present? Yes	No✓ Is the	Sampled Area				
	No ✓ withi	n a Wetland? Yes	No <u>√</u>			
Wetland Hydrology Present? Yes		, optional Wetland Site ID:	_			
Remarks: (Explain alternative procedures here or	in a separate report.)	of a sound field. This soun				
The upland is located in a young for	orest near the edge c	n a com neid. This san	npie point is snared			
with wetland wasc058f.						
HYDROLOGY						
Wetland Hydrology Indicators:		Secondary Ind	icators (minimum of two required)			
Primary Indicators (minimum of one is required; che	eck all that apply)	Surface So	oil Cracks (B6)			
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage F	Patterns (B10)			
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim	Moss Trim Lines (B16)			
	Marl Deposits (B15)	-	Dry-Season Water Table (C2)			
	_ Hydrogen Sulfide Odor (C1)		· · · · · · · · · · · · · · · · · · ·			
		ospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)				
	Presence of Reduced Iron (
	Recent Iron Reduction in Til					
	Thin Muck Surface (C7)		Shallow Aquitard (D3)			
Inundation Visible on Aerial Imagery (B7)	_ Other (Explain in Remarks)		Microtopographic Relief (D4)			
Sparsely Vegetated Concave Surface (B8)		FAC-Neuti	ral Test (D5)			
Field Observations:						
	Depth (inches):					
	Depth (inches):					
Saturation Present? Yes No _✓ (includes capillary fringe)	Depth (inches):	Wetland Hydrology Pres	ent? Yes No <u>√</u>			
Describe Recorded Data (stream gauge, monitoring	g well, aerial photos, previous i	nspections), if available:				
Remarks:						
No indicators of wetland hydrology	were observed.					
,						

Trop Stratum (Plataire: 20'	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30')		Species?		Number of Dominant Species
1. Populus tremuloides			FAC	That Are OBL, FACW, or FAC:3.0 (A)
2. Acer rubrum				Total Number of Dominant Species Across All Strata: 6.0 (B)
3. <u>Picea glauca</u>				Species Across All Strata:
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 (A/B)
5				That Ale OBE, I AGW, OF I AC.
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	<u>100.0</u>	= Total Co	ver	OBL species <u>5.0</u> x 1 = <u>5.0</u>
Sapling/Shrub Stratum (Plot size: 15')				FACW species 0.0 x 2 = 0.0
1. <u>Fraxinus americana</u>	25.0	<u>Y</u>	<u>FACU</u>	FAC species 105.0 x 3 = 315.0 FACU species 60.0 x 4 = 240.0
2				UPL species 50.0 x5 = 250.0
3				Column Totals: 220.0 (A) 810.0 (B)
4				
5				Prevalence Index = B/A =3.7
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	25.0	= Total Co	ver	2 - Dominance Test is >50%
Herb Stratum (Plot size:5')				3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting
1. <u>Eurybia macrophylla</u>	50.0	Y	<u>UPL</u>	data in Remarks or on a separate sheet)
2. Cornus racemosa		<u> </u>	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Poa pratensis</u>	10.0	N	<u>FACU</u>	¹ Indicators of hydric soil and wetland hydrology must
4. Calamagrostis canadensis		N	OBL	be present, unless disturbed or problematic.
5. <u>Symphyotrichum lateriflorum</u>	5.0	N	FAC	Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb - All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	95.0	= Total Co	ver	height.
Woody Vine Stratum (Plot size: 30')				
1				
2				
3				Hydrophytic
4				Vegetation Present? Yes No _ ✓
	0.0	= Total Co	ver	Tresent: TesNo
Remarks: (Include photo numbers here or on a separate The upland is dominated by quaking as	sheet.) spen and	d large-	leaved a	aster.

Sampling Point: wasc057_u

SOIL Sampling Point: wasc057_u

Profile Desc	cription: (Describe t	o the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of i	ndicators.)		
Depth	Matrix Color (moist)	%	Redo Color (moist)	x Features %	Type ¹	Loc ²	Texture	Remarks		
(inches)	7.5YR 2.5/3		Color (moist)	70	туре	LUC	CI	Remarks		
6-20	2.5YR 3/4						<u> </u>			
0-20	2.0111 0/4	100								
				·						
				·						
				· ——						
				. ———						
				·						
				·						
	oncentration, D=Deple	etion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	² Location: Pl	_=Pore Lining, M=Matrix.		
Hydric Soil Histosol			Polyvalue Belov	w Surface	(S8) (I D E	D D		Problematic Hydric Soils ³ : (A10) (LRR K, L, MLRA 149B)		
	pipedon (A2)		MLRA 149B)		(50) (EIXI	、 1 、 ,		rie Redox (A16) (LRR K, L, R)		
	istic (A3)		Thin Dark Surfa					ty Peat or Peat (S3) (LRR K, L, R)		
	en Sulfide (A4) d Layers (A5)		Loamy Mucky N Loamy Gleyed I			, ∟)		ce (S7) (LRR K, L) Below Surface (S8) (LRR K, L)		
-	d Below Dark Surface	(A11)	Depleted Matrix					Surface (S9) (LRR K, L)		
	ark Surface (A12) Mucky Mineral (S1)		Redox Dark Su Depleted Dark S		7)		_	anese Masses (F12) (LRR K, L, R) Floodplain Soils (F19) (MLRA 149B)		
Sandy 0	Gleyed Matrix (S4)		Redox Depress		• ,		Mesic Spo	dic (TA6) (MLRA 144A, 145, 149B)		
-	Redox (S5) d Matrix (S6)							Red Parent Material (F21) Very Shallow Dark Surface (TF12)		
	rface (S7) (LRR R, M	LRA 149B)					lain in Remarks)		
	f hydrophytic vegetati	on and we	tland hydrology mus	t be prese	ent, unless	disturbed	or problematic.			
	Layer (if observed):									
Type:	ches):						Hydric Soil Pre	sent? Yes No/_		
Remarks:										
No indica	ators of hydric	soil we	re observed.							



wasc057 u N



wasc057_u_W

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City	//County: Ashland Sampling Date: 2019-10-09			
•	State: WI Sampling Point: wasc059e_w			
Investigator(s): BRG/JSW Sec	ction, Township, Range: 046N-004W-08			
	relief (concave, convex, none): Concave Slope (%): 0-2%			
	Long: <u>-90.902688</u> Datum: <u>WGS84</u>			
	slopes NWI classification:			
Are climatic / hydrologic conditions on the site typical for this time of year?				
	turbed? Are "Normal Circumstances" present? Yes / _ No			
Are Vegetation, Soil, or Hydrology naturally proble				
SUMMARY OF FINDINGS – Attach site map showing sa	ampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? Yes✓ No	Is the Sampled Area			
Hydric Soil Present? Yes _ ✓ No	within a Wetland? Yes No			
Wetland Hydrology Present? Yes No	If yes, optional Wetland Site ID:			
Remarks: (Explain alternative procedures here or in a separate report.) The wortland is a fresh wort moodow surrounded h	by mesic forest. The feature is located in a closed			
depression.	by mesic lorest. The realtire is located in a closed			
depression.				
HYDROLOGY				
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)			
Primary Indicators (minimum of one is required; check all that apply)				
Surface Water (A1) Water-Stained Lea				
✓ High Water Table (A2)✓ Saturation (A3)✓ Marl Deposits (B15)				
Water Marks (B1) Hydrogen Sulfide (· · · · · · · · · · · · · · · · · · ·			
	eres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)			
Drift Deposits (B3) Presence of Reduc				
	tion in Tilled Soils (C6) Geomorphic Position (D2)			
Iron Deposits (B5) Thin Muck Surface	(C7) Shallow Aquitard (D3)			
Inundation Visible on Aerial Imagery (B7) Other (Explain in F				
Sparsely Vegetated Concave Surface (B8)	✓ FAC-Neutral Test (D5)			
Field Observations:				
Surface Water Present? Yes No ✓ Depth (inches):				
Water Table Present? Yes _ ✓ No Depth (inches): 8				
Saturation Present? Yes ✓ No Depth (inches): <u>O</u> (includes capillary fringe)	Wetland Hydrology Present? Yes ✓ No			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, p	previous inspections), if available:			
Remarks:				
The hydrologic regime is seasonally saturated, w	ith recharge hydrology.			

VEGETATION – Use scientific names of plants.

'EGETATION – Use scientific names of plants.		Sampling Point: <u>wasc059e_w</u>		
Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
1. <u>Acer rubrum</u>	10.0	Y	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: 6.0 (A)
2. <i>Populus tremuloides</i> 3.				Total Number of Dominant Species Across All Strata: 6.0 (B)
4.				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.0 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
		= Total Cov		OBL species 49.0 $x = 49.0$
Sapling/Shrub Stratum (Plot size:)				FACW species 29.0 x 2 = 58.0
1. <u>Ilex verticillata</u>	10.0	Υ	FACW	FAC species <u>15.0</u> x 3 = <u>45.0</u>
2				FACU species 2.0 x 4 = 8.0
3.				UPL species $0.0 \times 5 = 0.0$
4.				Column Totals: <u>95.0</u> (A) <u>160.0</u> (B)
5				Prevalence Index = B/A =1_7
6.				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Cov	/er	∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size: 5')				3 - Prevalence Index is ≤3.0 ¹
1. <u>Calamagrostis canadensis</u>	30.0	Υ	OBL	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Carex intumescens		Υ	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Lycopus uniflorus		Υ	OBL	
4. <u>Iris versicolor</u>		N	OBL	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <u>Solidago gigantea</u>		N	FACW	Definitions of Vegetation Strata:
6. Fraxinus nigra		N	FACW	-
7. <u>Cornus alba</u>	2.0	_N_	FACW	Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8. <i>Fragaria virginiana</i>	2.0	_N_	<u>FACU</u>	Sapling/shrub – Woody plants less than 3 in. DBH
9. <u>Cicuta maculata</u>	2.0	N	OBL	and greater than or equal to 3.28 ft (1 m) tall.
10. <u>Carex crinita</u>	2.0	N	OBL	Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	70.0	= Total Cov	/er	height.
Woody Vine Stratum (Plot size:)				
1				
2				
3.				Hydrophytic
4.				Vegetation
		= Total Cov	/er	Present? Yes No
Remarks: (Include photo numbers here or on a separate s				

The wetland is dominated by Calamagrostis canadensis. Some trees and shrubs are present, but are not prevalent enough for the wetland to be classified as a forested or shrub system.

SOIL Sampling Point: wasc059e_w

Profile Desc	cription: (Describ	e to the dep	th needed	to docun	nent the i	ndicator	or confirm	the absence	e of indicators.)
Depth (inches)	Matrix Color (moist)	%	Color (ı		x Features %	Type ¹	Loc ²	Texture	Remarks
0-6	10YR 2/2	100	COIOI (I	HOIST)	70	туре	LUC	MMI	Remarks
6-14	10YR 4/2	90	5YR	4/6	10	С	M	С	Prominent redox
					10	С	M	С	
Type: C=C Hydric Soil Histic E Black H Hydroge Stratifie L Deplete Thick D Sandy N Sandy C Sandy F Stripped		epletion, RM	=Reduced	Matrix, MS	S=Masked v Surface ce (S9) (L dineral (F1 Matrix (F2 c (F3) rface (F6) Surface (F6)	Sand Gr (S8) (LRI LRR R, M	ains.	²Location Indicators 2 cm Coast 5 cm Dark \$ Polyva Thin E Iron-M Piedm Mesic Red F Very \$	Distinct redox The Pore Lining, M=Matrix. The For Problematic Hydric Soils ³ : Muck (A10) (LRR K, L, MLRA 149B) The Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L) Palue Below Surface (S8) (LRR K, L) Park Surface (S9) (LRR K, L) Manganese Masses (F12) (LRR K, L, R) Pont Floodplain Soils (F19) (MLRA 149B) Parent Material (F21) Shallow Dark Surface (TF12) (Explain in Remarks)
	f hydrophytic veger Layer (if observed		etiana nyara	ology mus	t be prese	ent, unies	s disturbed	or problemati	с.
Type:									
Depth (in	ches):							Hydric Soi	I Present? Yes No
Remarks:	a mucky mi					ayer.			



wasc059e_w_E



wasc059e_w_W

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION		
Project name: Line 5 Relocation Project	Evaluator(s): BRG/JSW	
File #: wasc059	Date of visit(s): 10/09/2019	
Location: PLSS: 046N-004W-08	Ecological Landsca Superior Coastal Plain	ape:
Lat: <u>46.481742</u> Long: <u>-90.902688</u>	Watershed: LS10, White River	
County: Ashland Town/City/Village: White River town		
SITE DESCRIPTION		
Soils: Mapped Type(s):	WWI Class:	
280F Odanah silt loam, 580B Sanborg-Badriver complex Field Verified:	Wetland Type(s): PEM - Fresh We	et Meadow
Series not verified. Soils were mucky mineral above clay.	Wetland Size:	Wetland Area Impacted
	Vegetation: Plant Community D	Description(s):
Hydrology: The hydrologic regime is seasonally saturated, with recharge hydrology.	Fresh wet mead Calamagrostis c	ow is dominated by anadensis.

SITE MAP		

SECTION 1: Functional Value Assessment

1			ECTION 1.	Functional Value Assessment
2	HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
3	1	N	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
3 N N Visually or physically accessible to public 4 N Y A Sethetically pleasing due to diversity of habitat types, tack of pollution or degradation 5 N N List: 1	2	N	N	Used for educational or scientific purposes
A	3	N	N	
Solution	4	.		
S		- ' '		
Fig. Fig.	5	N	N	
In or adjacent to archaeological or cultural resource site Wildlife Habitat	6	NI	NI	
Wildlife Habitat N		IN	111	
1				
2		NI	NI	
3 N N Within or adjacent to habitat corridor or established wildlife habitat area				
4 N			-	
6 N N Occurs in a Joint Venture priority township 6 N N Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 7 N Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N N Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥ 45 days 10 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N Provides habitat scarce in the area (urban, agricultural, etc.) FA Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring SP Shoreline Protection 1	-	.		
6 N N Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex,etc.) 7 N Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N N Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥ 45 days 10 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N Y Provides habitat scarce in the area (urban, agricultural, etc.) FAA Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is in undated in spring SP Shoreline Protection 1 N N Along shoreline of a stream, lake, pond or open water area (≥1 acr		.	-	
Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans	-			
N	б	N	N	Interspersion of nabitat structure (nemi-marsn,snrub/emergent, wetland/upland complex,etc.)
8 N N Part of a large habitat block that supports area sensitive species 9 N N S Ephemeral pond with water present ≥ 45 days 10 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed muditats present 12 N Y Provides habitat scarce in the area (urban, agricultural, etc.) Fish and Aquatic Life Habitat 1 N N Wettand is connected or contiguous with perennial stream or lake 2 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N NAtural Hartiage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring SP Shoreline Protection 1 N N Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 N Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable 3 N N Densely rooted emergent or woody vegetation ST Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 2 Y Y Water flow through wetland is NOT channelized 3 Y Y Dense, persistent vegetation 4 N N Evidence of flashy hydrology 5 N N Point or non-point source inflow 6 N N Impervious surfaces cover > 10% of land surface within the watershed 7 N N Within a watershed with <10% wetland 8 N P Otential to hold > 10% of the runoff from contributing area from a 2-year 24-hour storm event wood water flow through wetland is NOT channelized 4 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 Y P Dense, persistent vegetation 8 N N Potential to hold > 10% of the runoff from contributing area from a 2-year 24-hour storm event wood water of the provides substantial storage of storm and floodwater based on previous section 8 N N Discharge to surface water from agricultural land is major hydrology source 9 N N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N Y Dense, persistent vegetation 8 N N Dischar	7	N	Y	
9				
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5 N N Wetland is within a wellhead protection area				
	5	N	N	Wetland is within a wellhead protection area

	a sufficient distance	indicate that water stands in the wetland following rain events from the nearby crop field to not receive significant runoff from it
Wil	Idlife Habita	at and Species Observation (including amphibians and reptiles)
		oservation, tracks, scat, other sign; type of habitat: nesting, migratory,
	nter, etc.	
bserved	Potential	Species/Habitat/Comments
	Y	Deer
	Υ	Avian
Fis	sh and Aqua	atic Life Habitat and Species Observations
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SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	the Community Integrity (Chero)						
	Low	Medium	High	Exceptional			
Invasive species cover	> 50%	20-50%	10-20%	<10%			
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented			
NHI plant community ranking	S4 🗸	S3 🗌	S2	S1-S2 (S2 high quality)			
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare			
FQI (optional)	<13	13-23	23-32	>32			
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7			

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Acer rubrum			PEM	Common
Populus tremuloides			PEM	Uncommon
llex verticillata			PEM	Common
Calamagrostis candensis			PEM	Common
Carex intumescens			PEM	Common
Lycopus uniflorus			PEM	Common
Iris versicolor			PEM	Uncommon
Solidago gigantea			PEM	Uncommon
Fraxinus nigra			PEM	Uncommon
Cornus alba			PEM	Uncommon
Fragaria virginiana			PEM	Uncommon
Cicuta maculata			PEM	Uncommon
Carex crinita			PEM	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The wetland contains no invasive species and has a typical species composition. Minimal tree and shrub cover is present.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
	Х		L	С	Point source or stormwater discharge
	Х		L	С	Polluted runoff
					Pond construction
	Х		M	С	Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
	V		D.4	0	Removal of herbaceous stratum – mowing,
	X		M	С	grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
	Х		L	U	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

רן	The wetland itself is not significantly stressed, but stressors are present in the buffer due to the nearby corn field.

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANCI	E	
Γ	Low	Medium	High	Exceptional	NA
Floristic Integrity			√		
Human Use Values		√			
Wildlife Habitat		√			
Fish and Aquatic Life Habitat		√			
Shoreline Protection					√
Flood and Stormwater Storage		1			
Water Quality Protection			√		
Groundwater Processes	√				

FUNCTION	RATIONALE
Floristic Integrity	No invasive species
Human Use Values	Hunting potential
Wildlife Habitat	Deer habitat
Fish and Aquatic Life Habitat	Potential habitat when the wetland is inundated
Shoreline Protection	N/A
Flood and Stormwater Storage	Closed vegetated basin
Water Quality Protection	See above
Groundwater Processes	Groundwater recharge

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: A	shland	Sampling Date: 2019-10-09			
•			Sampling Point: wasc059_u			
Investigator(s): JSW/BRG	Section, Township, Range: 046N-004W-08					
Landform (hillslope, terrace, etc.): Talf						
Subregion (LRR or MLRA): Northcentral Forests Lat						
Soil Map Unit Name: Odanah silt loam, 25 t						
Are climatic / hydrologic conditions on the site typical for						
Are Vegetation, Soil, or Hydrology						
Are Vegetation, Soil, or Hydrology						
SUMMARY OF FINDINGS – Attach site m	nap snowing sampling p	oint locations, transect	s, important features, etc.			
Hydrophytic Vegetation Present? Yes	_ 110	ampled Area				
	INO <u></u>	Wetland? Yes	No <u>√</u>			
Wetland Hydrology Present? Yes Remarks: (Explain alternative procedures here or in		otional Wetland Site ID:				
The upland is located in a young milwasc060f.	xed hardwood forest.	This sample point is	shared with wetland			
HYDROLOGY Wetland Hydrology Indicators:		Secondary Indi	cators (minimum of two required)			
Primary Indicators (minimum of one is required; chec	k all that apply)		· · · · · · · · ·			
-	Water-Stained Leaves (B9)	Drainage P				
	Aquatic Fauna (B13)		Lines (B16)			
Saturation (A3)	Marl Deposits (B15)	Dry-Season	n Water Table (C2)			
	Hydrogen Sulfide Odor (C1)	Crayfish Bu				
	Oxidized Rhizospheres on Livir		Visible on Aerial Imagery (C9)			
1 — · · · · —	Presence of Reduced Iron (C4)		Stressed Plants (D1)			
	Recent Iron Reduction in Tilled Thin Muck Surface (C7)	Solis (C6) Geomorphi Shallow Ad	c Position (D2)			
	Other (Explain in Remarks)		raphic Relief (D4)			
Sparsely Vegetated Concave Surface (B8)		· -	al Test (D5)			
Field Observations:		_	, ,			
Surface Water Present? Yes No ✓	Depth (inches):	_				
Water Table Present? Yes No✓	Depth (inches):	_				
Saturation Present? Yes No✓ (includes capillary fringe)	_ Depth (inches):	_ Wetland Hydrology Prese	ent? Yes No <u>√</u>			
Describe Recorded Data (stream gauge, monitoring v	well, aerial photos, previous insp	ections), if available:				
Remarks:						
No indicators of wetland hydrology	were observed.					

VEGETATION – Use scientific names of plants.

Tree Obstance (Districts 20)	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30')		Species?		Number of Dominant Species
1. <u>Pinus strobus</u>			FACU	That Are OBL, FACW, or FAC:3.0 (A)
2. Acer rubrum				Total Number of Dominant
3. <u>Betula papyrifera</u>				Species Across All Strata: 7.0 (B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 42.857142857142854 (A/B)
5				That Are OBL, FACW, or FAC: 42.857142857142854 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	90.0	= Total Co	ver	OBL species <u>0.0</u> x 1 = <u>0.0</u>
Sapling/Shrub Stratum (Plot size: 15')				FACW species x 2 =0.0
1. Abies balsamea	10.0_	<u>Y</u>	<u>FAC</u>	FACULTURE
2				FACU species 90.0 x 4 = 360.0 UPL species 0.0 x 5 = 0.0
3				Column Totals: 160.0 (A) 570.0 (B)
4				
5				Prevalence Index = B/A = 3.6
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Co	ver	2 - Dominance Test is >50%
Herb Stratum (Plot size:)				3 - Prevalence Index is ≤3.0¹
1. Cornus canadensis	30.0	<u>Y</u>	FAC	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. <u>Pteridium aquilinum</u>	10.0	Y	<u>FACU</u>	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Fragaria virginiana</u>	10.0	Y	<u>FACU</u>	
4. Pyrola elliptica			<u>FACU</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				
7.				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9.				and greater than or equal to 3.28 ft (1 m) tall.
10			·	Herb – All herbaceous (non-woody) plants, regardless
11.			·	of size, and woody plants less than 3.28 ft tall.
12			·	Woody vines – All woody vines greater than 3.28 ft in
·		= Total Co	ver	height.
Woody Vine Stratum (Plot size: 30')		- rotar 00	VOI	
1				
2				
3			· ———	Hydrophytic Vegetation
4		= Total Co		Present? Yes No✓
Remarks: (Include photo numbers here or on a separate		= 10tal C0	vei	
The upland is dominated by white pine		nchberr	у.	

Sampling Point: wasc059_u

SOIL Sampling Point: wasc059_u

Profile Des	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of in	dicators.)
Depth (in all as)	Matrix	0/		x Features		1.2.2	Tautuma	Demonto
(inches) 0-4	Color (moist) 7.5YR 3/2	100	Color (moist)	<u> %</u>	Type'	Loc ²	<u>Texture</u>	Remarks
4-8	7.5YR 5/3						SICL	
Hydric Soil Histoso Histic E Black H Hydrog Stratifie Deplete Thick D Sandy I Sandy I Sandy I Dark St	pipedon (A2) pipedon (A2) pistic (A3) en Sulfide (A4) d Layers (A5) d Below Dark Surface ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) d Matrix (S6) urface (S7) (LRR R, N	e (A11)	Polyvalue Belov MLRA 149B) Thin Dark Surfa Loamy Mucky M Loamy Gleyed I Depleted Matrix Redox Dark Su Depleted Dark S Redox Depress	w Surface ace (S9) (L dineral (F' Matrix (F2 (F3) rface (F6) Surface (F ions (F8)	(S8) (LRF LRR R, MI I) (LRR K)	R R, _RA 149B) , L)	Indicators for F 2 cm Muck Coast Prair 5 cm Mucky Dark Surface Polyvalue E Thin Dark S Iron-Manga Piedmont F Mesic Spool Red Parent Very Shallo Other (Expl	=Pore Lining, M=Matrix. Problematic Hydric Soils³: (A10) (LRR K, L, MLRA 149B) ie Redox (A16) (LRR K, L, R) v Peat or Peat (S3) (LRR K, L, R) selow Surface (S8) (LRR K, L) Surface (S9) (LRR K, L) nese Masses (F12) (LRR K, L, R) rloodplain Soils (F19) (MLRA 149B) dic (TA6) (MLRA 144A, 145, 149B) Material (F21) w Dark Surface (TF12) ain in Remarks)
	of hydrophytic vegetat Layer (if observed):		land nydrology mas	st be prese	erit, uriles	disturbed	or problematic.	
Type:								
Depth (ir	nches):						Hydric Soil Pres	sent? Yes No/_
Remarks: No indic	ators of hydric	soil we	re observed.					



wasc059_u_E



wasc059_u_W

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City	/County: Ashland Sampling Date: 2019-10-09
•	State: WI Sampling Point: wasc060f_w
_	ction, Township, Range: <u>046N-004W-08</u>
	elief (concave, convex, none): Concave Slope (%): 0-2%
	Long: -90.902963 Datum: WGS84
	Slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year?	·
	urbed? Are "Normal Circumstances" present? Yes _ ✓ No
Are Vegetation, Soil, or Hydrology naturally problem	
SUMMARY OF FINDINGS – Attach site map showing sa	impling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes✓ No	Is the Sampled Area
Hydric Soil Present? Yes ✓ No	within a Wetland? Yes No
Wetland Hydrology Present? Yes✓ No	If yes, optional Wetland Site ID:
Remarks: (Explain alternative procedures here or in a separate report.)	local depression and surrounded by masis forest
·	losed depression and surrounded by mesic forest.
The wetland shares upland sample point wasc05	9_u.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained Leav	
✓ High Water Table (A2) Aquatic Fauna (B1:	
✓ Saturation (A3) Marl Deposits (B15	
Water Marks (B1) Hydrogen Sulfide C	
	eres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Presence of Reduc	· · · · · · · · · · · · · · · · · · ·
Algal Mat or Crust (B4) Recent Iron Reduct Iron Deposits (B5) Thin Muck Surface	
Indit Deposits (B3) Thirt Muck Surface Inundation Visible on Aerial Imagery (B7) Other (Explain in R	
Sparsely Vegetated Concave Surface (B8)	✓ FAC-Neutral Test (D5)
Field Observations:	✓ I AO-Neullai Test (D3)
Surface Water Present? Yes No _ ✓ _ Depth (inches):	
Water Table Present? Yes _ ✓ No Depth (inches): 1	
Saturation Present? Yes ✓ No Depth (inches): 0	
(includes capillary fringe)	unique in a atient Vita vellable.
Describe Recorded Data (stream gauge, monitoring well, aerial photos, p	revious inspections), if available:
Remarks:	91
The hydrologic regime is seasonally saturated, w	ith recharge hydrology.

VEGETATION – Use scientific names of plants

EGETATION – Use scientific names of plants	Sampling Point: wasc060f_w						
Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?		Dominance Test worksheet:			
1. <u>Acer rubrum</u>	40.0	Y	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: 5.0 (A)			
2. <i>Populus tremuloides</i> 3.			FAC	Total Number of Dominant Species Across All Strata: 5.0 (B)			
4				Percent of Dominant Species			
5				That Are OBL, FACW, or FAC: 100.0 (A/B)			
6				Prevalence Index worksheet:			
7				Total % Cover of: Multiply by:			
	60.0	= Total Cov	/er	OBL species 20.0 x 1 = 20.0			
Sapling/Shrub Stratum (Plot size:)				FACW species x 2 =144.0			
1. <u>Ilex verticillata</u>	30.0	<u>Y</u>	FACW	FAC species <u>63.0</u> x 3 = <u>189.0</u>			
2				FACU species 10.0 x 4 = 40.0			
3				UPL species $0.0 \times 5 = 0.0$			
4				Column Totals: <u>165.0</u> (A) <u>393.0</u> (B)			
5				Prevalence Index = B/A =			
6.				Hydrophytic Vegetation Indicators:			
7				1 - Rapid Test for Hydrophytic Vegetation			
		= Total Cov	/er	2 - Dominance Test is >50%			
Herb Stratum (Plot size: 5')				3 - Prevalence Index is ≤3.0¹			
Carex intumescens	30.0	Υ	FACW	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)			
Calamagrostis canadensis		Y	OBL	Problematic Hydrophytic Vegetation¹ (Explain)			
3. <u>Fragaria virginiana</u>		N	FACU				
4. Rubus pubescens		N	FACW	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.			
5. Solidago gigantea	5.0	N	FACW				
6. Pyrola elliptica		N	FACU	Definitions of Vegetation Strata:			
7. Ranunculus acris		N	FAC	Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
8. Carex gracillima		N	FACU				
9. Cornus alba	2.0	N	FACW	Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.			
10. Symphyotrichum lateriflorum	1.0	N	FAC	Herb – All herbaceous (non-woody) plants, regardless			
11. Viburnum rafinesqueanum		N	NI	of size, and woody plants less than 3.28 ft tall.			
12. Agrimonia striata	1.0	N	FACU	Woody vines – All woody vines greater than 3.28 ft in			
	75.0	= Total Cov		height.			
Woody Vine Stratum (Plot size:30')							
1							
2.							
3				Hydrophytic			
4				Vegetation			
		= Total Cov	/er	Present? Yes <u>√</u> No			
Remarks: (Include photo numbers here or on a separate	sheet.)						
The wetland is dominated by Acer rubr	um, with	n a varia	ble herb	paceous layer composed primarily of			

Carex intumescens and Calamagrostis canadensis.

SOIL Sampling Point: wasc060f_w

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth (inches)	Matrix Color (moist)	%	Color (n		x Features %	Type ¹	Loc ²	Texture	Remarks	
0-3	10YR 3/1	100		10101)	70	Турс		MMI	Nomano	
3-20	10YR 4/1		7.5YR	1/6	10			C	Prominent redox	
3-20	101K 4/1	90	1.51K	4/0			IVI		Prominent redox	
								_		
								_		
¹ Type: C=C	oncentration, D=Depl	etion RM	-Reduced N	Aatrix MS	S-Masked	Sand Gr	ains	² l ocation	n: PL=Pore Lining, M=Matrix.	
Hydric Soil		Ottori, rtivi	<u> </u>	natrix, ivic	<u>J-Maskea</u>	ound or	anio.		s for Problematic Hydric Soils ³ :	
Histosol	. ,				v Surface	(S8) (LR I	RR,		Muck (A10) (LRR K, L, MLRA 149B)	
	pipedon (A2) istic (A3)			RA 149B) ark Surfa		RR R. M	LRA 149B)		Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R)	
Hydroge	en Sulfide (A4)		Loamy	Mucky N	/lineral (F1) (LRR K		Dark S	Surface (S7) (LRR K, L)	
	d Layers (A5)	. (-	Matrix (F2)				alue Below Surface (S8) (LRR K, L)	
	d Below Dark Surface ark Surface (A12)	e (A11)		ed Matrix Dark Su	rface (F6)				Park Surface (S9) (LRR K, L) Ianganese Masses (F12) (LRR K, L, R)	
Sandy N	Mucky Mineral (S1)		Deplet	ed Dark S	Surface (F	7)		Piedmont Floodplain Soils (F19) (MLRA 149B)		
	Gleyed Matrix (S4)		Redox	Depress	ions (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
	Redox (S5) I Matrix (S6)							Red Parent Material (F21) Very Shallow Dark Surface (TF12)		
	rface (S7) (LRR R, N	ILRA 149	B)						(Explain in Remarks)	
³ Indicators o	f hydrophytic vegetat	ion and w	etland hydro	logy mus	t be prese	nt, unles:	s disturbed o	or problemati	c.	
	Layer (if observed):							•		
Type:										
Depth (in	ches):							Hydric Soil	Present?	
Remarks:	are depleted	undor	a muck	, clay	lavor					
1116 30113	are depieted	unuen	a mucky	/ Clay	ayei.					



wasc060f_w_N



wasc060f_w_S

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project	Evaluator(s): BRG/JSW		
File #: wasc060	Date of visit(s): 10/09/2019		
Location: PLSS: 046N-004W-08	Ecological Landsca Superior Coastal Plain	ape:	
Lat: 46.481452 Long: -90.902944	Watershed: LS10, White River		
County: Ashland Town/City/Village: White River town			
SITE DESCRIPTION			
Soils: Mapped Type(s):	WWI Class: N/A		
280F Odanah silt loam, 580B Sanborg-Badriver complex	Wetland Type(s): PFO - Hardwood Swamp		
Field Verified:		'	
Series not verified. Soils were mucky mineral above clay.	Wetland Size: 0.05	Wetland Area Impacted 0.05	
	Vegetation: Plant Community D	Description(s):	
Hydrology: The hydrologic regime is seasonally saturated, with recharge hydrology.	Hardwood swamp is dominated by Acer rubrum, with an herbaceous layer dominated by Calamagrostis canadensis and Carex intumescens,		

 SITE MAP	

SECTION 1: Functional Value Assessment

HU YNN Potential Human Use Values: recreation, culture, education, science, natural scenic beauty 1 N Y Used for reducational or scientific purposes 3 N N Visually or physically accessible to public 4 N Y Assthetically pleasing due to diversity of habitat types, lack of pollution or degradation 5 N N I visually or physically accessible to public 6 N N Supports or provides habitat for endangered, threatened or special concern species 7 In or adjacent to RED FLAG areas 1 In or adjacent to archaeological or cultural resource site WH WI Wildlife Habitat 1 N N Wetland and contiguous habitat 10 acres 2 Y Y 3 or more strata present (1-10% cover) 3 N N Within or adjacent to habitat corridor or established wildlife habitat area 4 N N 100 m buffer – natural land cover ≥50% (south) 75% (north) intact 5 N N 100 m buffer – natural land cover ≥50% (south) 75% (north) intact 6 N N Interspersion of habitat structure (hemi-marh, shrub/emergent, wetland/upland complex, etc.) 7 N Y Supports or provides habitat for SGCN or birds listed in the Wi Alf-Bird Cons. Plan, or other plans 8 N N Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Wetland is connected or contiguous with perennial stream or lake 12 N Y Provides habitat for scarce in the area (urban, agricultural, etc.) 13 N N Natural Heritage Inventory (NHI) listed a quatic species within aquatic system 14 N N Wetland is connected or contiguous with perennial stream or lake 15 N N N Notural Heritage Inventory (NHI) stated aquatic species within aquatic system 16 N N Patrol flashy hydrology 17 N Y Standing water provides habitat for amphibians and aquatic invertebrates 18 N N N Internal Heritage Inventory (NHI) stated aquatic species within aquatic system 19 N N Standing water provides habitat for amphibians and aquatic invertebrates 2 N N Standing water provides habitat for supplicable 2 N N Neutral Heritage Inventory (NHI)			ECTION 1:	Functional Value Assessment			
2 N N Used for educational or scientific purposes 3 N N V Visually or physically accessible to public 4 N Y Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation 5 N N List: 6 N N Supports or provides habitat for endangered, threatened or special concern species 7 In or adjacent to archaeological or cultural resource site Wild Wildlife Habitat 1 N W Wildlife Habitat 1 N W Wildlife Habitat 2 Y Y 3 or more strate present (-10% cover) 3 N N Wiffin or adjacent to habitat corridor or established wildlife habitat area 4 N N 100 m buffer – natural land cover £50% outly 75% (north) infact 5 N N Occurs in a Joint Venture priority township 6 N N Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex.etc.) 7 N Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N N P art of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥ 45 days 110 N Y Standing water provides habitat for amphibians and aquatic invertebrates 111 N N Seasonally exposed mudilats present 112 N Y Provides habitat storic armaphibians and aquatic invertebrates 113 N N Wildland is carce in the area (urban, agricultural, etc.) 114 N N Seasonally exposed mudilats present 115 N N V Standing water provides habitat for amphibians and aquatic invertebrates 116 N N N International in a provides habitat for amphibians and aquatic invertebrates 117 N N V Standing water provides habitat for amphibians and aquatic invertebrates 118 N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 119 N N Standing water provides habitat for amphibians and aquatic invertebrates 110 N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 110 N N Standing water provides habitat for amphibians and squatic invertebrates 111 N N N Standing water provides habitat for amphibians and squatic invertebrates 111 N N N Standing water provides habitat for amphibians and a	HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty			
3	1	Ν	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Hunting			
3	2	N	N	Used for educational or scientific purposes			
A	3	N	N				
5	4						
S		- ' '					
Fig. Fig.	5	N	N				
In or adjacent to archaeological or cultural resource site Wildlife Habitat	6	NI	N				
Wildlife Habitat		- 11	111				
1 N N Wetland and conliguous habbitat >10 acres 2 Y Y Y 3 or more strata present (>10% cover) 3 N N Within or adjacent to habitat corridor or established wildlife habitat area 4 N N 100 m buffer − natural land cover ≥50%(south) 75% (north) intact 5 N N Cocurs in a Joint Venture priority township 6 N N Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex,etc.) 7 N Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N N Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥ 45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudiflats present 12 N Y Provides habitat scarce in the area (urban, agricultural, etc.) FA Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring SP Shoreline Protection 1 N N Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 N Potential for errosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows if no, not applicable 3 N N Densely rooted emergent or woody vegetation 5 Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 4 N N Potential to hold->10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection 1 N N Within a watershed with ≤10% enternal floodwater based on previous section 2 Y Y Basin wetland or constricted outlet 3 Y Y Dense, persistent vegetation 5 N N Vegetated wetland associated with a lake or stream 6 N N Potential to hold->10% of the runoff from contributing are							
2		NI.	NI				
3							
4			_				
5 N N Occurs in a Joint Venture priority township 6 N N Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 7 N Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N N Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥ 45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N P Provides habitat scarce in the area (urban, agricultural, etc.) FFA Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring SP Shoreline Protection <tr< td=""><td>-</td><td></td><td></td><td></td></tr<>	-						
6 N N Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex,etc.) 7 N Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N N Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥ 45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N Y Provides habitat scarce in the area (urban, agricultural, etc.) FA Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring SP Shoreline Protection 1 N N Along shoreline of a stream, lake, pond or open w							
Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans	-						
N	б	N	N	Interspersion of nabitat structure (nemi-marsn,shrub/emergent, wetland/upland complex,etc.)			
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		at and Species Observation (including amphibians and reptiles)
	it: direct ob nter, etc.	oservation, tracks, scat, other sign; type of habitat: nesting, migratory,
	Ilci, cic.	
Observed	Potential	
<u> </u>	Y	Deer
	Y	Avian
Fis	h and Aqua	atic Life Habitat and Species Observations
Lis	t: direct ob	oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observed	Potential	Species/Habitat
00001100	Y	Frogs
	Y	Aquatic invertebrates
	Y	Amphibians

Section 1 Comments (Refer to Section 1 numbers)

HU-1: Ilex verticillata provides good deer habitat
ST-5: relatively close to a crop field

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3.✓	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
Acer rubrum			PFO	Common
Populus tremuloides			PFO	Common
llex verticillata			PFO	Common
Carex intumescens			PFO	Common
Calamagrostis canadensis			PFO	Common
Fragaria virginiana			PFO	Uncommon
Rubus pubescens			PFO	Uncommon
Solidago gigantea			PFO	Uncommon
Pyrola elliptica			PFO	Uncommon
Ranunculus acris			PFO	Uncommon
Carex gracillima			PFO	Uncommon
Cornus alba			PFO	Uncommon
Symphyotrichum lateriflorum			PFO	Rare
Viburnum rafinesqueanum			PFO	Rare
Agrimonia striata			PFO	Rare

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The wetland contains no invasive species and is typical for the hardwood swamp wetland plant community (although with Acer rubrum as a canopy dominant instead of Fraxinus nigra).

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor	
					Filling, berms (non-impounding)	
	Х				Drainage – tiles, ditches	
					Hydrologic changes - high capacity wells,	
					impounded water, increased runoff	
	Х		M	С	Point source or stormwater discharge	
	Х		M	С	Polluted runoff	
					Pond construction	
	Х		M	С	Agriculture – row crops	
					Agriculture – hay	
					Agriculture – pasture	
					Roads or railroad	
					Utility corridor (above or subsurface)	
					Dams, dikes or levees	
					Soil subsidence, loss of soil structure	
					Sediment input	
	V		D.4	0	Removal of herbaceous stratum – mowing,	
	X		M	С	grading, earthworms, etc.	
					Removal of tree or shrub strata – logging,	
					unprescribed fire	
					Human trails – unpaved	
					Human trails – paved	
					Removal of large woody debris	
	Х		L	U	Cover of non-native and/or invasive species	
					Residential land use	
					Urban, commercial or industrial use	
					Parking lot	
					Golf course	
					Gravel pit	
					Recreational use (boating, ATVs, etc.)	
					Excavation or soil grading	
					Other (list below):	

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The wetland itself is not significantly stressed, but stressors are present in the buffer due to the nearby corn field. The
wetland potentially receives runoff from this crop field.

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION	SIGNIFICANCE				
	Low	Medium	High	Exceptional	NA
Floristic Integrity			\checkmark		
Human Use Values		✓			
Wildlife Habitat		✓			
Fish and Aquatic Life Habitat		✓			
Shoreline Protection					√
Flood and Stormwater Storage			√		
Water Quality Protection			√		
Groundwater Processes	√				

FUNCTION	RATIONALE
Floristic Integrity	No invasives, good assemblage of native species
Human Use Values	Hunting potential
Wildlife Habitat	Deer habitat
Fish and Aquatic Life Habitat	Standing water after rain events
Shoreline Protection	N/A
Flood and Stormwater Storage	Potential to store crop field runoff, closed vegetated basin
Water Quality Protection	See above
Groundwater Processes	Slow groundwater recharge

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: As	shland	_ Sampling Date: 2019-10-09
•			Sampling Point: wasc059_u
Investigator(s): JSW/BRG	Section, Townsh	ip, Range: <u>046N-004W-</u>	08
Landform (hillslope, terrace, etc.): Talf			
Subregion (LRR or MLRA): Northcentral Forests Lat			
Soil Map Unit Name: Odanah silt loam, 25 t			
Are climatic / hydrologic conditions on the site typical for			
Are Vegetation, Soil, or Hydrology			
Are Vegetation, Soil, or Hydrology			
SUMMARY OF FINDINGS – Attach site m	nap snowing sampling po	oint locations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes	110	mpled Area	
	INO <u></u>	Wetland? Yes	No/
Wetland Hydrology Present? Yes Remarks: (Explain alternative procedures here or in		tional Wetland Site ID:	
The upland is located in a young mi wasc060f.	xed hardwood forest.	This sample point is	shared with wetland
HYDROLOGY Wetland Hydrology Indicators:		Secondary Indic	cators (minimum of two required)
Primary Indicators (minimum of one is required; chec	k all that apply)		· · · · · · ·
-	Water-Stained Leaves (B9)	Drainage Pa	
	Aquatic Fauna (B13)	Moss Trim I	
Saturation (A3)	Marl Deposits (B15)	Dry-Season	n Water Table (C2)
	Hydrogen Sulfide Odor (C1)	Crayfish Bu	
	Oxidized Rhizospheres on Living		Visible on Aerial Imagery (C9)
1 — · · · · —	Presence of Reduced Iron (C4)		Stressed Plants (D1)
	Recent Iron Reduction in Tilled 3 Thin Muck Surface (C7)	Solis (C6) Geomorphic Shallow Aq	c Position (D2)
	Other (Explain in Remarks)		raphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	(<u>-</u>)		al Test (D5)
Field Observations:			, ,
Surface Water Present? Yes No ✓	Depth (inches):		
Water Table Present? Yes No✓	Depth (inches):		
Saturation Present? Yes No✓ (includes capillary fringe)	Depth (inches):	Wetland Hydrology Prese	ent? Yes No <u>√</u>
Describe Recorded Data (stream gauge, monitoring v	well, aerial photos, previous inspe	ections), if available:	
Remarks:			
No indicators of wetland hydrology	were observed.		

VEGETATION – Use scientific names of plants.

Tree Obstance (Districts 20)	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30')		Species?		Number of Dominant Species
1. <u>Pinus strobus</u>			FACU	That Are OBL, FACW, or FAC:3.0 (A)
2. Acer rubrum				Total Number of Dominant
3. <u>Betula papyrifera</u>				Species Across All Strata: 7.0 (B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 42.857142857142854 (A/B)
5				That Are OBL, FACW, or FAC: 42.857142857142854 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	90.0	= Total Co	ver	OBL species <u>0.0</u> x 1 = <u>0.0</u>
Sapling/Shrub Stratum (Plot size: 15')				FACW species x 2 =0.0
1. Abies balsamea	10.0_	<u>Y</u>	<u>FAC</u>	FACULTURE
2				FACU species 90.0 x 4 = 360.0 UPL species 0.0 x 5 = 0.0
3				Column Totals: 160.0 (A) 570.0 (B)
4				
5				Prevalence Index = B/A = 3.6
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Co	ver	2 - Dominance Test is >50%
Herb Stratum (Plot size:)				3 - Prevalence Index is ≤3.0¹
1. Cornus canadensis	30.0	<u>Y</u>	FAC	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. <u>Pteridium aquilinum</u>	10.0	Y	<u>FACU</u>	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Fragaria virginiana</u>	10.0	Y	<u>FACU</u>	
4. Pyrola elliptica			<u>FACU</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				
7.				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9.				and greater than or equal to 3.28 ft (1 m) tall.
10			·	Herb – All herbaceous (non-woody) plants, regardless
11.			·	of size, and woody plants less than 3.28 ft tall.
12			·	Woody vines – All woody vines greater than 3.28 ft in
·		= Total Co	ver	height.
Woody Vine Stratum (Plot size: 30')		- rotar 00	VOI	
1				
2				
3			· ———	Hydrophytic Vegetation
4		= Total Co		Present? Yes No✓
Remarks: (Include photo numbers here or on a separate		= 10tal C0	vei	
The upland is dominated by white pine		nchberr	у.	

Sampling Point: wasc059_u

SOIL Sampling Point: wasc059_u

Profile Des	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of in	dicators.)
Depth (in all as)	Matrix	0/		x Features		1.2.2	Tautuma	Demonto
(inches) 0-4	Color (moist) 7.5YR 3/2	100	Color (moist)	<u> %</u>	Type'	Loc ²	<u>Texture</u>	Remarks
4-8	7.5YR 5/3						SICL	
Hydric Soil Histoso Histic E Black H Hydrog Stratifie Deplete Thick D Sandy I Sandy I Sandy I Dark St	pipedon (A2) pipedon (A2) pistic (A3) en Sulfide (A4) d Layers (A5) d Below Dark Surface ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) d Matrix (S6) urface (S7) (LRR R, N	e (A11)	Polyvalue Belov MLRA 149B) Thin Dark Surfa Loamy Mucky M Loamy Gleyed I Depleted Matrix Redox Dark Su Depleted Dark S Redox Depress	w Surface ace (S9) (L dineral (F' Matrix (F2 (F3) rface (F6) Surface (F ions (F8)	(S8) (LRF LRR R, MI I) (LRR K)	R R, _RA 149B) , L)	Indicators for F 2 cm Muck Coast Prair 5 cm Mucky Dark Surface Polyvalue E Thin Dark S Iron-Manga Piedmont F Mesic Spool Red Parent Very Shallo Other (Expl	=Pore Lining, M=Matrix. Problematic Hydric Soils³: (A10) (LRR K, L, MLRA 149B) ie Redox (A16) (LRR K, L, R) v Peat or Peat (S3) (LRR K, L, R) selow Surface (S8) (LRR K, L) Surface (S9) (LRR K, L) nese Masses (F12) (LRR K, L, R) rloodplain Soils (F19) (MLRA 149B) dic (TA6) (MLRA 144A, 145, 149B) Material (F21) w Dark Surface (TF12) ain in Remarks)
	of hydrophytic vegetat Layer (if observed):		land nydrology mas	st be prese	erit, uriles	disturbed	or problematic.	
Type:								
Depth (ir	nches):						Hydric Soil Pres	sent? Yes No/_
Remarks: No indic	ators of hydric	soil we	re observed.					



wasc059_u_E



wasc059_u_W

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Pr	oiect	City/C	ounty: Ashla	and		Sampling Date:	2019-10-09
Applicant/Owner: Enbridge	•						
Investigator(s): BRG/JSW							
Landform (hillslope, terrace, etc.): Depre							
Subregion (LRR or MLRA): Northcentral F							
Soil Map Unit Name: Sanborg-Badri							
Are climatic / hydrologic conditions on the s	•	•	•				
Are Vegetation, Soil, or Hyd		-					/ No
							<u>v</u> 100
Are Vegetation, Soil, or Hyd					-		
SUMMARY OF FINDINGS – Attac	ch site ma	p showing sam	pling point	locations	s, transects,	important f	eatures, etc.
	Yes <u>√</u>		Is the Sample		Vas ./	No	
	Yes <u>√</u> Yes <u>√</u>						
Wetland Hydrology Present? Remarks: (Explain alternative procedures			If yes, optiona	Wetland Si	te ID:		
The wetland is a fresh wet m	eadow lo	ocated in a me	esic forest	. The we	tland rece	ives runoff	from the
nearby crop field, and some	water is	discharged fro	om the we	tland do	wnslope.		
HYDROLOGY							
Wetland Hydrology Indicators:				Se	econdary Indicat	tors (minimum o	f two required)
Primary Indicators (minimum of one is req	uired: check a	all that apply)			_ Surface Soil (<u> </u>
Surface Water (A1)		/ater-Stained Leaves			_ Drainage Pat		
High Water Table (A2)		quatic Fauna (B13)			_ Moss Trim Lir		
Saturation (A3)		larl Deposits (B15)		_		Vater Table (C2)
Water Marks (B1)		ydrogen Sulfide Odd	or (C1)		_ Crayfish Burr		
Sediment Deposits (B2)	0	xidized Rhizosphere	es on Living Ro	oots (C3)	_ Saturation Vis	sible on Aerial In	nagery (C9)
Drift Deposits (B3)	P	resence of Reduced	l Iron (C4)	_	_ Stunted or St	ressed Plants (D)1)
Algal Mat or Crust (B4)	R	ecent Iron Reduction	n in Tilled Soils	; (C6) <u>√</u>	_ Geomorphic I	Position (D2)	
Iron Deposits (B5)	T	hin Muck Surface (C	27)	_	_ Shallow Aquit	tard (D3)	
Inundation Visible on Aerial Imagery (B7) O	ther (Explain in Rem	narks)	_	_ Microtopogra	phic Relief (D4)	
Sparsely Vegetated Concave Surface	(B8)				_ FAC-Neutral	Test (D5)	
Field Observations:							
		Depth (inches):					
		Depth (inches):					
Saturation Present? Yes (includes capillary fringe)	_ No <u></u> ✓ L	Depth (inches):	V	Vetland Hyd	rology Presen	t? Yes <u>√</u>	_ No
Describe Recorded Data (stream gauge, r	nonitoring we	II, aerial photos, prev	vious inspection	ns), if availab	ole:		
Remarks:							
The hydrologic regime is sea	asonally s	saturated. The	e wetland i	recharge	es some gr	oundwater	, but also
discharges some downslope							

VEGETATION – Use scientific names of plants.

/EGETATION – Use scientific names of plants				Sampling Point: <u>wasc061e_w</u>
Tree Stratum (Plot size:)	Absolute % Cover		t Indicator Status	Dominance Test worksheet:
1. <u>Populus tremuloides</u>				Number of Dominant Species That Are OBL, FACW, or FAC:
2				Total Number of Dominant Species Across All Strata: 6.0 (B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 83.3333333333334 (A/B)
5				That Are OBL, I AGW, OF AC.
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	5.0	= Total Co	over	OBL species 20.0 x 1 = 20.0
Sapling/Shrub Stratum (Plot size: 15')				FACW species $29.0 \times 2 = 58.0$ FAC species $20.0 \times 3 = 60.0$
1. <u>Abies balsamea</u>				FACU species 36.0 x 4 = 144.0
2. <u>Ilex verticillata</u>	5.0	Y	<u>FACW</u>	UPL species x 5 =
3		-	· ———	Column Totals: 105.0 (A) 282.0 (B)
4				
5				Prevalence Index = B/A =2.7
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	10.0	= Total Co	over	∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size:)				3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting)
1. <u>Carex gracillima</u>	30.0	Y	<u>FACU</u>	data in Remarks or on a separate sheet)
2. Calamagrostis canadensis	10.0	Y	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Carex intumescens</u>	10.0	Y	<u>FACW</u>	The disease of budgies and quality of budgets are a
4. Thalictrum dasycarpum	5.0	N	<u>FACW</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <u>Juncus effusus</u>	5.0	N	OBL	Definitions of Vegetation Strata:
6. <u>Epilobium coloratum</u>	5.0	N	OBL	
7. Solidago gigantea	5.0	N	FACW	Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8. <u>Prunella vulgaris</u>		N	FAC	Sapling/shrub – Woody plants less than 3 in. DBH
9. Taraxacum officinale		Ν	FACU	and greater than or equal to 3.28 ft (1 m) tall.
10. Ranunculus acris	2.0	N	FAC	Herb – All herbaceous (non-woody) plants, regardless
11. Fragaria virginiana	2.0	N	FACU	of size, and woody plants less than 3.28 ft tall.
12. Rubus pubescens	2.0	N	FACW	Woody vines – All woody vines greater than 3.28 ft in
		= Total Co		height.
Woody Vine Stratum (Plot size:30')	00.0	- 10101 00	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
1				
2.				
3.				Undranhatia
4				Hydrophytic Vegetation
T		= Total Co	nver	Present? Yes <u>√</u> No
Remarks: (Include photo numbers here or on a separate		= Total Oc	7001	
The wetland has somewhat dense and		e herba	ceous ve	egetation.

SOIL Sampling Point: wasc061e_w

Profile Desc	cription: (D	escribe	to the dep	oth needed	to docun	nent the in	ndicator	or confirm	the absence	of indicators.)
Depth (inches)	Color (r	Matrix	%	Color (n		<u>x Features</u> %	Type ¹	Loc ²	Texture	Remarks
0-2		2/2	100		10000		Турс		CL	Nomano
2-12	7.5YR	4/2	90	7.5YR	4/6	10	С	M	С	Prominent redox
12-20	5YR	4/4	95	5YR	4/6	_5_	C	_M_	С	Distinct redox
¹ Type: C=C Hydric Soil Histosol	Indicators:	ı, D=Depl	etion, RM						Indicators	n: PL=Pore Lining, M=Matrix. for Problematic Hydric Soils ³ : Muck (A10) (LRR K, L, MLRA 149B)
Black Hi Hydroge Stratified Depleted Thick Da Sandy M Sandy F Stripped	ark Surface Mucky Miner Gleyed Matri Redox (S5) I Matrix (S6)	Thin Dark Surface (S9) (LRR R, MLRA 149B) e (A4) Loamy Mucky Mineral (F1) (LRR K, L) Loamy Gleyed Matrix (F2) Dark Surface (A11) ace (A12) Ineral (S1) Matrix (S4) Thin Dark Surface (S9) (LRR R, MLRA 149B) Loamy Gleyed Matrix (F2) Pepleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8)						 Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Dark Surface (S7) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) ✓ Red Parent Material (F21) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) 		
³ Indicators o		_	ion and w	etland hydro	logy mus	t be prese	nt, unless	s disturbed o	or problemation	С.
Туре:										
Depth (in	ches):								Hydric Soil	Present? Yes No
Remarks: Promined	nt redox	was o	bserve	ed.						



wasc061e_w_N



wasc061e_w_S

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION		
Project name:	Evaluator(s):	
Line 5 Relocation Project	BRG/JSW	
File #:	Date of visit(s):	
wasc061	10/09/2019	
Location:	Ecological Landsca	ipe:
PLSS: <u>046N-004W-08</u>	Superior Coastal Plain	
	Ouperior Coastai i lain	
Lat: <u>46.481041</u> Long: <u>-90.902996</u>	Watershed:	
	LS10, White River	
County: Ashland Town/City/Village: White River town		
SITE DESCRIPTION		
Soils:	WWI Class:	
Mapped Type(s):	N/A	
280F Odanah silt loam, 580B Sanborg-Badriver complex	Wetland Type(s):	
	PEM - Fresh We	et Meadow
Field Verified:		
Series not verified. Soils were clay loam above	Wetland Size:	Wetland Area Impacted
clay.	0.02	0.02
, in the second	Vegetation:	
	Plant Community D	Description(s):
Hydrology:		ow is dominated by Carex
The hydrologic regime is seasonally saturated, with		c intumescens, Calamagrostis
recharge hydrology and discharge hydrology. The		
wetland receives runoff from the nearby corn field.	cariauerisis, ario	Solidago gigantea.
ĺ		

SITE MAP		

SECTION 1: Functional Value Assessment

			Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
2	Ν	N	Used for educational or scientific purposes
3	Ν	N	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
F			In or adjacent to RED FLAG areas
5	Ν	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7			In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N	Y	100 m buffer – natural land cover >50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
0	IN	IN	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
7	Ν	Υ	plans
0			Part of a large habitat block that supports area sensitive species
8	N	N	
9	N	N	Ephemeral pond with water present > 45 days
10	N	Y	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	Y	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	Ν	N	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2	N.I	K.I	Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
	N	N	water levels or high flows – if no, not applicable
3	Ν	N	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Υ	Y	Water flow through wetland is NOT channelized
3	Y	Y	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	Y	Y	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with ≤10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ	1 1	11	Water Quality Protection
1	Υ	Υ	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland or constricted outlet
3	Y	Y	Water flow through wetland is NOT channelized
4			Vegetated wetland associated with a lake or stream
5	N	N	
-	Y	Y	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	Y	Stormwater or surface water from agricultural land is major hydrology source
8	Y	Y	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area
	1.4		The state of the s

\A/;	ldlifa Habita	at and Species Observation (including amphibians and reptiles)
Lis	t: direct ob	at and Species Observation (including amphibians and reptiles) servation, tracks, scat, other sign; type of habitat: nesting, migratory,
wir	nter, etc.	
Observed	Potential	Species/Habitat/Comments
	Y	Deer
<u> </u>	Υ	Avian
		atic Life Habitat and Species Observations
Lis	t: direct ob	oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observed	Potential	Species/Habitat
	Υ	Frogs
	Υ	Aquatic invertebrates

Section 1 Comments (Refer to Section 1 numbers)

ST-1: the wetland is a depressional feature that has a constricted outlet WQ-8: the wetland discharges some water downslope into a stream

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4 /	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional) Mean C (optional)	<13<2.4	13-23 2.4-4.2	23-32 4.3-4.7	>32

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Populus tremuloides			PEM	Uncommon
Abies balsamea			PEM	Uncommon
llex verticillata			PEM	Uncommon
Carex gracillima			PEM	Common
Calamagrostis candensis			PEM	Common
Carex intumescens			PEM	Common
Thalictrum dasycarpum			PEM	Uncommon
Juncus effusus			PEM	Uncommon
Epilobium coloratum			PEM	Uncommon
Solidago gigantea			PEM	Uncommon
Prunella vulgaris			PEM	Uncommon
Taraxacum officinale			PEM	Uncommon
Ranunculus acris			PEM	Uncommon
Fragaria virginiana			PEM	Uncommon
Rubus pubescens			PEM	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

Several invasive species are present but are not prevalent or troublesome. Minimal tree and shrub cover is present.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
X	Х		Н	С	Point source or stormwater discharge
	Х		Н	С	Polluted runoff
					Pond construction
	Х		Н	С	Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
			D 4	0	Removal of herbaceous stratum – mowing,
	X		M	С	grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
X	Х		M	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The wetland receives stormwater runoff from the nearby crop field and is somewhat disturbed.

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity		✓			
Human Use Values		✓			
Wildlife Habitat		✓			
Fish and Aquatic Life Habitat		√			
Shoreline Protection					√
Flood and Stormwater Storage			√		
Water Quality Protection				✓	
Groundwater Processes			√		

FUNCTION	RATIONALE
Floristic Integrity	Low species diversity and some invasives present, but not infested
Human Use Values	Hunting potential
Wildlife Habitat	Marginal deer and avian habitat
Fish and Aquatic Life Habitat	Some potential when the wetland is inundated
Shoreline Protection	N/A
Flood and Stormwater Storage	Stores crop field runoff in a densely vegetated basin, with no clear signs of water rapidly passing through in a channel
Water Quality Protection	Polluted/erosional stormwater runoff enters the wetland from the crop field, and this water is filtered through the densely vegetated wetland before it is discharged downslope into a large stream
Groundwater Processes	Groundwater recharge and discharge to stream downslope

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	t City/County: _	Ashland	_ Sampling Date: 2019-10-09			
Applicant/Owner: Enbridge		State: WI	Sampling Point: wasc061_u			
Investigator(s): JSW/BRG	Section, Towr	ship, Range: <u>046N-004W-</u>	08			
Landform (hillslope, terrace, etc.): Talf						
Subregion (LRR or MLRA): Northcentral Forests						
Soil Map Unit Name: Odanah silt loam, 2						
Are climatic / hydrologic conditions on the site typ	ical for this time of year? Yes✓	No (If no, explain in	Remarks.)			
Are Vegetation, Soil, or Hydrology	significantly disturbed?	Are "Normal Circumstances"	present? Yes ✓ No			
Are Vegetation, Soil, or Hydrology	naturally problematic?	(If needed, explain any answ	ers in Remarks.)			
SUMMARY OF FINDINGS - Attach si	te map showing sampling	point locations, transect	s, important features, etc.			
	110 <u>V</u>	Sampled Area	No. /			
	NO <u> </u>		No <u></u>			
		optional Wetland Site ID:				
Remarks: (Explain alternative procedures here The upland is located in a young		a corn field				
The upland is located in a young	Torest flear the eage of	a com neia.				
HYDROLOGY						
Wetland Hydrology Indicators:		Secondary Indic	cators (minimum of two required)			
Primary Indicators (minimum of one is required;	check all that apply)	Surface So	il Cracks (B6)			
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)				
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)				
Saturation (A3)	Marl Deposits (B15)	Dry-Season Water Table (C2)				
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Crayfish Burrows (C8)			
Sediment Deposits (B2)	Oxidized Rhizospheres on Liv		Visible on Aerial Imagery (C9)			
Drift Deposits (B3)	Presence of Reduced Iron (C		Stressed Plants (D1)			
Algal Mat or Crust (B4)	Recent Iron Reduction in Tille		c Position (D2)			
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D3)			
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)		raphic Relief (D4)			
Sparsely Vegetated Concave Surface (B8) Field Observations:		FAC-Neutra	al Test (D5)			
	✓ Depth (inches):					
	✓ Depth (inches):					
	✓ Depth (inches):		ent? Yes No <u>√</u>			
(includes capillary fringe)			105 <u> </u>			
Describe Recorded Data (stream gauge, monito	ring well, aerial photos, previous ins	spections), if available:				
Remarks:						
No indicators of wetland hydrological	gy were observed.					

VEGETATION – Use scientific names of plants.

Species Y Y	FACU	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: A.O. (A) 42.857142857142854 (A/B)
Y Y N	FAC FACU	That Are OBL, FACW, or FAC: 3.0 (A) Total Number of Dominant Species Across All Strata: 7.0 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 42.857142857142854 (A/B)
YN	FACU	Total Number of Dominant Species Across All Strata: 7.0 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 42.857142857142854 (A/B)
_ N	FACU 	Species Across All Strata: 7.0 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 42.857142857142854 (A/B)
 		Percent of Dominant Species That Are OBL, FACW, or FAC: 42.857142857142854 (A/B)
		That Are OBL, FACW, or FAC: 42.857142857142854 (A/B)
		Prevalence Index worksheet:
_ = Total C		Total % Cover of: Multiply by:
	cover	OBL species <u>0.0</u> x 1 = <u>0.0</u>
		FACW species 0.0 x 2 = 0.0
_		FAC species 100.0 x 3 = 300.0 FACU species 45.0 x 4 = 180.0
		UPL species
		Column Totals: <u>155.0</u> (A) <u>530.0</u> (B)
		Prevalence Index = B/A = 3.4
		Hydrophytic Vegetation Indicators:
		1 - Rapid Test for Hydrophytic Vegetation
	Cover	2 - Dominance Test is >50%
		3 - Prevalence Index is ≤3.0¹
V	FΔC	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
		Problematic Hydrophytic Vegetation¹ (Explain)
		¹ Indicators of hydric soil and wetland hydrology must
		be present, unless disturbed or problematic.
		Definitions of Vegetation Strata:
_ <u>N</u> _	_ FACU	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
_		at breast height (DBH), regardless of height.
		Sapling/shrub – Woody plants less than 3 in. DBH
		and greater than or equal to 3.28 ft (1 m) tall.
		Herb – All herbaceous (non-woody) plants, regardless
		of size, and woody plants less than 3.28 ft tall.
_		Woody vines – All woody vines greater than 3.28 ft in
_ = Total C	over	height.
		Hydrophytic
		Vegetation
		Present? Yes No✓
	= Total C	= Total Cover Y FACU Y UPL Y FACU Y FACU N FACU

SOIL Sampling Point: wasc061_u

Profile Des	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of in	dicators.)
Depth	Matrix	0/	Redo Color (moist)	x Features	4	1.2.2	Tandona	Remarks
(inches) 0-6	7.5YR 3/3	100	Color (moist)	%	Type'	Loc ²		Remarks
	2.5YR 4/4						<u> </u>	
6-20	2.51K 4/4	100						
	-							
	-							
Type: C=C Hydric Soil	oncentration, D=Dep	letion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.		=Pore Lining, M=Matrix. Problematic Hydric Soils ³ :
Histoso			Polyvalue Belov	w Surface	(S8) (LRF	RR,		(A10) (LRR K, L, MLRA 149B)
Histic E	pipedon (A2)	•	MLRA 149B)		. , .		Coast Prair	ie Redox (A16) (LRR K, L, R)
	istic (A3) en Sulfide (A4)		Thin Dark Surfa Loamy Mucky N					/ Peat or Peat (S3) (LRR K, L, R) ce (S7) (LRR K, L)
	d Layers (A5)		Loamy Gleyed			, =/		Below Surface (S8) (LRR K, L)
-	d Below Dark Surface	e (A11)	Depleted Matrix					Surface (S9) (LRR K, L)
	ark Surface (A12) Mucky Mineral (S1)	•	Redox Dark Su Depleted Dark S		·7)		_	nese Masses (F12) (LRR K, L, R) loodplain Soils (F19) (MLRA 149B)
-	Gleyed Matrix (S4)	•	Redox Depress		,,			lic (TA6) (MLRA 144A, 145, 149B)
-	Redox (S5)							Material (F21)
	d Matrix (S6) urface (S7) (LRR R, N	ILRA 149B)				•	w Dark Surface (TF12) ain in Remarks)
	of hydrophytic vegetat		tland hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
	Layer (if observed):							
Type:	-1 V						Hydric Soil Pres	sent? Yes No <u>√</u>
Remarks:	ches):						Tiyano com rico	100 <u> </u>
	ators of hydric	soil we	re observed.					
	,							



wasc061_u_N



wasc061_u_S

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/C	County: Ashland Sampling Date: 2019-10-09
•	State: WI Sampling Point: wasc062f_w
Investigator(s): BRG/JSW Secti	
	lief (concave, convex, none): Concave Slope (%): 0-2%
	Long: <u>-90.901984</u> Datum: <u>WGS84</u>
	ercent slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year?	
	rbed? Are "Normal Circumstances" present? Yes ✓ No
Are Vegetation, Soil, or Hydrology naturally problem	
SUMMARY OF FINDINGS – Attach site map showing san	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes✓ No	Is the Sampled Area
Hydric Soil Present? Yes ✓ No	within a Wetland? Yes No
Wetland Hydrology Present? Yes✓ No	If yes, optional Wetland Site ID:
Remarks: (Explain alternative procedures here or in a separate report.)	
The wetland is a hardwood swamp located in a me	esic forest.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained Leave	
High Water Table (A2) Aquatic Fauna (B13)	
✓ Saturation (A3) Marl Deposits (B15)	
Water Marks (B1) Hydrogen Sulfide Od	
Sediment Deposits (B2) Oxidized Rhizospher	
Drift Deposits (B3) Presence of Reduce	· , ,
Algal Mat or Crust (B4) Recent Iron Reduction	
Iron Deposits (B5) Thin Muck Surface (0 Inundation Visible on Aerial Imagery (B7) Other (Explain in Rel	
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	<u> </u>
Surface Water Present? Yes No✓ Depth (inches):	
Water Table Present? Yes No Depth (inches):	
Saturation Present? Yes ✓ No Depth (inches): 0	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	ovious inspections) if available:
Describe Recorded Data (stream gauge, monitoring well, aeriai priotos, pre	evious inspections), il avaliable.
Remarks:	the walland and the land
The hydrologic regime is seasonally saturated, wit	in recharge hydrology.

VEGETATION – Use scientific names of plants

/EGETATION – Use scientific names of plants.				Sampling Point: wasc062f_w			
Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?		Dominance Test worksheet:			
1. <u>Acer rubrum</u>	20.0	Y	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: (A)			
2. <i>Fraxinus nigra</i> 3				Total Number of Dominant Species Across All Strata: 7 (B)			
4. 5.				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)			
6				Prevalence Index worksheet:			
7				Total % Cover of: Multiply by:			
		= Total Cov		OBL species x 1 = 32			
Sapling/Shrub Stratum (Plot size: 15')				FACW species <u>58</u> x 2 = <u>116</u>			
1. <u>Ilex verticillata</u>	10.0	Υ	FACW	FAC species <u>31</u> x 3 = <u>93</u>			
2. Acer rubrum				FACU species0 x 4 =0			
3				UPL species			
4				Column Totals:121 (A)241 (B)			
5				Prevalence Index = B/A =1.99			
6				Hydrophytic Vegetation Indicators:			
7				1 - Rapid Test for Hydrophytic Vegetation			
		= Total Cov	/er	2 - Dominance Test is >50%			
Herb Stratum (Plot size: 5')				✓ 3 - Prevalence Index is ≤3.0 ¹			
1. Glyceria striata	30.0	<u>Y</u>	OBL	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)			
2. <u>Carex intumescens</u>	_10.0_	<u>Y</u>	<u>FACW</u>	Problematic Hydrophytic Vegetation ¹ (Explain)			
3. <u>Fraxinus nigra</u>	10.0	Y	<u>FACW</u>	1			
4. Rubus pubescens			FACW	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.			
5. <u>Thalictrum dasycarpum</u>		N	FACW	Definitions of Vegetation Strata:			
6. Carex crinita		N	OBL				
7. <u>Onoclea sensibilis</u>	1.0	N	FACW	Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
8. <u>Symphyotrichum lateriflorum</u>			FAC	Sapling/shrub – Woody plants less than 3 in. DBH			
9				and greater than or equal to 3.28 ft (1 m) tall.			
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.			
11							
12				Woody vines – All woody vines greater than 3.28 ft in height.			
20'	61	= Total Cov	rer	Togri.			
Woody Vine Stratum (Plot size:30')							
1							
2							
3				Hydrophytic			
4				Vegetation Present?			
		= Total Cov	/er				
Remarks: (Include photo numbers here or on a separate s	sheet.)		"a and /	A control by the cont			

The wetland is dominated by a canopy of Fraxinus nigra and Acer rubrum, with a shrub layer of llex verticillata and an herbaceous layer composed mostly of Glyceria striata and Carex intumescens. Moss is frequently found on small tussocks.

SOIL Sampling Point: wasc062f_w

Profile Desc	cription: (Describe	to the dep	th needed	to docun	nent the in	ndicator	or confirm	the absence	of indicators.)
Depth (inches)	Matrix Color (moist)	%	Color (r		<u>k Features</u> %	Type ¹	Loc ²	Texture	Remarks
0-6	10YR 2/2	100		<u>Holoty</u>		Турс		MMI	Nomano
6-18	10YR 4/2		5YR	4/6	5	С	M		Prominent redox
18-20	10YR 4/2	90	5YR	4/6	_10_	C	_M_	SC	Prominent redox
		. ——							
Hydric Soil Histosol		letion, RM	Polyva		v Surface			Indicators 2 cm l	n: PL=Pore Lining, M=Matrix. for Problematic Hydric Soils ³ : Muck (A10) (LRR K, L, MLRA 149B) Prairie Redox (A16) (LRR K, L, R)
Hydroge Stratifies Deplete Thick D Sandy M Sandy G Sandy F Dark Su	istic (A3) en Sulfide (A4) d Layers (A5) d Below Dark Surface ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) d Matrix (S6) urface (S7) (LRR R, M	Thin Dark Surface (S9) (LRR R, MLRA 149B) Loamy Mucky Mineral (F1) (LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8)					 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Dark Surface (S7) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) 		
	f hydrophytic vegetate Layer (if observed):		etland hydro	ology mus	t be prese	nt, unles:	disturbed	or problemati	C.
Type:									
	ches):							Hydric Soil	Present?
Remarks: Soils are	mucky at the	surface	e and tr	ansitio	n to ve	ry fine	sand a	nd clay.	



wasc062f_w_E



wasc062f_w_W

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project	Evaluator(s): BRG/JSW		
File #: wasc062	Date of visit(s): 10/09/2019		
Location: PLSS: 046N-004W-08	Ecological Landsca Superior Coastal Plain	pe:	
Lat: 46.480288 Long: -90.901998 County: Ashland Town/City/Village: White River town	Watershed: LS10, White River		
SITE DESCRIPTION			
Soils: Mapped Type(s):	WWI Class: T3/5Kr		
580B Sanborg-Badriver complex, 713B Kellogg-Allendale-Ashwabay complex Field Verified:	Wetland Type(s): PFO - hardwood swamp		
Series not verified. Soils were mucky mineral above loamy very fine sand above sandy clay.	Wetland Size: 0.53	Wetland Area Impacted 0.53	
	Vegetation: Plant Community D	Description(s):	
Hydrology: The hydrologic regime is seasonally saturated, with recharge hydrology.	Hardwood swamp is dominated by Fraxinus nigra and Acer rubrum, with an herbaceous layer dominated by Glyceria striata and Carex intumescens.		

 SITE MAP

SECTION 1: Functional Value Assessment

			Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
2	Ν	Ν	Used for educational or scientific purposes
3	Ν	N	Visually or physically accessible to public
4	Ν	Υ	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
_			In or adjacent to RED FLAG areas
5	Ν	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7			In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	Y	Y	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	Y	Y	100 m buffer – natural land cover >50%(south) 75% (north) intact
5			Occurs in a Joint Venture priority township
6	N	N	Interpretation of habitat atrusture (hami march abrub/amargant, watland/unland complex ata)
0	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	Ν	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present > 45 days
10	N	Y	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	Υ	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	Ν	Ν	Wetland is connected or contiguous with perennial stream or lake
2	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Y	Vegetation is inundated in spring
SP			Shoreline Protection
1	N	N	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
	- 11		Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	Ν	N	water levels or high flows – if no, not applicable
3	N	N	Densely rooted emergent or woody vegetation
ST	11	IN	Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Y	Y	Water flow through wetland is NOT channelized
3	Y	Y	Dense, persistent vegetation
-		_	
4	N	N	Evidence of flashy hydrology
5	N	N	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with <10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	Υ	Υ	Provides substantial storage of storm and floodwater based on previous section
2	Υ	Υ	Basin wetland or constricted outlet
3	Υ	Υ	Water flow through wetland is NOT channelized
4	N	N	Vegetated wetland associated with a lake or stream
5	Υ	Υ	Dense, persistent vegetation
6	Ν	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N	Wetland soils are organic
5	Ν	N	Wetland is within a wellhead protection area

		nments (Refer to Section 1 numbers)						
FA-4: the wetland ha	FA-4: the wetland has standing water after rain events, and pools in places WQ-1: the wetland is a closed depressional feature, and is close to a crop field							
Twe-1. the wettand is a closed depressional leadure, and is close to a crop field								
		at and Species Observation (including amphibians and reptiles)						
Lis	st: direct of	pservation, tracks, scat, other sign; type of habitat: nesting, migratory,						
wi	nter, etc.							
Observed	Potential	Species/Habitat/Comments						
	Y	Deer						
	Y	Avian						
	Y	Amphibians						
Υ	Y							
Y	Y	Mouse						
Fis	sh and Aqua	atic Life Habitat and Species Observations						
Lis	st: direct ob	pservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.						
Observed	Potential	Species/Habitat						
	Y	Frogs						
	Y	Aquatic invertebrates						
	ī	Aqualic invertebrates						
	<u> </u>							
<u> </u>	-							

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	inity intogrity (on olo)			
	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3√	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Acer rubrum			PFO	Common
Fraxinus nigra			PFO	Common
llex verticillata			PFO	Common
Glyceria striata			PFO	Common
Carex intumescens			PFO	Common
Rubus pubescens			PFO	Uncommon
Thalictrum dasycarpum			PFO	Uncommon
Carex crinita			PFO	Uncommon
Onoclea sensibilis			PFO	Rare
Symphyotrichum lateriflorum			PFO	Rare

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The wetland contains no invasive species and is typical for the hardwood swamp wetland plant community.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
	Х		L	С	Point source or stormwater discharge
	Х		L	С	Polluted runoff
					Pond construction
	Х		L	С	Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
	V			0	Removal of herbaceous stratum – mowing,
	X		L	С	grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
	Х		L	U	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

רן	The wetland itself is not significantly stressed, but stressors are present in the buffer due to the nearby corn field.

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION	SIGNIFICANCE							
	Low	Medium	High	Exceptional	NA			
Floristic Integrity			\checkmark					
Human Use Values		✓						
Wildlife Habitat		✓						
Fish and Aquatic Life Habitat		✓						
Shoreline Protection					√			
Flood and Stormwater Storage			√					
Water Quality Protection			√					
Groundwater Processes	√							

FUNCTION	RATIONALE
Floristic Integrity	No invasives, good assemblage of native species
Human Use Values	Hunting potential
Wildlife Habitat	Deer/avian habitat
Fish and Aquatic Life Habitat	Standing water after rain events
Shoreline Protection	N/A
Flood and Stormwater Storage	Potential to store crop field runoff, closed vegetated basin
Water Quality Protection	See above
Groundwater Processes	Groundwater recharge

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project 0	ity/County: Ashland Sampling Date: 2019-10-09
•	State: WI Sampling Point: wasc062_u
· ·	Section, Township, Range: 046N-004W-08
	al relief (concave, convex, none): None Slope (%): 0-2%
Subregion (LRR or MLRA): Northcentral Forests Lat. 46 480003	Long: <u>-90.901797</u> Datum: <u>WGS84</u>
Soil Man Unit Name: Sanborg-Badriver complex 0 to 6	percent slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year	
	isturbed? Are "Normal Circumstances" present? Yes ✓ No
Are Vegetation, Soil, or Hydrology naturally probability of the Vegetation, or Hydrology	
SUMMARY OF FINDINGS – Attach site map showing	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes ✓ No	Is the Sampled Area
Hydric Soil Present? Yes No _✓	within a Wetland? Yes No
Wetland Hydrology Present? Yes No✓	If yes, optional Wetland Site ID:
Remarks: (Explain alternative procedures here or in a separate report	.)
The upland is a dry-mesic mixed forest.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained L	
High Water Table (A2) Aquatic Fauna (B	
Saturation (A3) Marl Deposits (B	
Water Marks (B1) Hydrogen Sulfide	
	pheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Presence of Rec	· / —
Algal Mat or Crust (B4) Recent Iron Red Iron Deposits (B5) Thin Muck Surfa	uction in Tilled Soils (C6) Geomorphic Position (D2) ce (C7) Shallow Aquitard (D3)
Indit Deposits (B5) Thirt Muck Surfa Inundation Visible on Aerial Imagery (B7) Other (Explain in	
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	1710 Noutal 1001 (20)
Surface Water Present? Yes No _ ✓ _ Depth (inches):	
Water Table Present? Yes No _ ✓ Depth (inches):	
Saturation Present? Yes No✓ Depth (inches):	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos	province inductions) if excitable.
Describe Recorded Data (Stream gauge, monitoring well, aerial photos	, previous inspections), ii available.
Remarks:	
No indicators of wetland hydrology were observed	ea.

ninant Indicate Status Y FACI Y FACI N FACI N FACI Y FACI Y FACI N FACI N FACI N FACI N FACI N FACI N FACI N FACI N FACI N FACI N FACI N FACI	Number of Dominant Species That Are OBL, FACW, or FAC:
Y FAC N FAC N FAC N FAC N FAC N FAC N FAC N FAC N FAC N FAC	That Are OBL, FACW, or FAC:4
Y FAC N FAC N FAC N FAC N FAC N FAC N FAC N FAC N FAC N FAC	Total Number of Dominant Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: OBL, FACW or FAC: Total % Cover of: OBL species 10
A FACUAL	Species Across All Strata:
al Cover Y FACV Y FACV Y FACV Y FACV Y FACV Y FACV N FACV N FACV N FACV	Percent of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 10
al Cover Y FACV Y FACV Y FACV Y FACV Y FACV N FACV N FACV N FACV	That Are OBL, FACW, or FAC: 66.67 (A/B) Prevalence Index worksheet:
al Cover Y FACV Y FACV AL FACV Y FACV Y FACV N FACV N FACV N FACV	Total % Cover of: OBL species
al Cover Y FACV Y FACV Y FACV Y FACV Y FACV N FACV N FACV N FACV	Total % Cover of: OBL species
Al Cover Y FACV Y FACV Y FACV Y FACV N UPL N FACV N FACV N FACV	OBL species
Y FACV Y FACV All Cover Y FACV Y FACV N FACV N FACV N FACV N FACV	FACW species 10 x2 = 20 FAC species 97 x3 = 291 FACU species 65 x4 = 260 UPL species 5 x5 = 25 Column Totals: 177 (A) 596 (B) Prevalence Index = B/A = 3.37 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Vegetation Strata:
A FACIN FACI	FAC species 97 x 3 = 291 FACU species 65 x 4 = 260 UPL species 5 x 5 = 25 Column Totals: 177 (A) 596 (B) Prevalence Index = B/A = 3.37 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Vegetation Strata:
A FACIN FACI	FACU species 65 x 4 = 260 UPL species 5 x 5 = 25 Column Totals: 177 (A) 596 (B) Prevalence Index = B/A = 3.37 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Vegetation Strata:
al Cover Y FACI N UPL N FACI N FACI	UPL species 5 x 5 = 25 Column Totals: 177 (A) 596 (B) Prevalence Index = B/A = 3.37 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Vegetation Strata:
al Cover Y FACI N FACI N FACI N FACI	Prevalence Index = B/A =
al Cover Y FACI Y FACI N UPL N FACI N FACI	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Vegetation Strata:
al Cover Y FACI N FACI N FACI N FACI	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Vegetation Strata:
al Cover Y FACI Y FACI N UPL N FACI N FACI N FACI	1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Vegetation Strata:
Y FAC Y FAC N UPL N FAC N FAC	∠ 2 - Dominance Test is >50% _ 3 - Prevalence Index is ≤3.0¹ _ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) _ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Vegetation Strata:
Y FACI Y FACI N UPL N FACI N FACI	
Y FACI N UPL N FACI N FACI	4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Vegetation Strata:
Y FACI N UPL N FACI N FACI	data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Vegetation Strata:
N FACI N FACI N FACI	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Vegetation Strata:
N FACI N FACI	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Vegetation Strata:
FACI	be present, unless disturbed or problematic. Definitions of Vegetation Strata:
V FAC	bernitions of vegetation offata.
N FACI	I Iree - Woody plants 3 in 17 6 cm) or more in diameter
	at breast height (DBH), regardless of height.
	- Sapling/shrub - Woody plants less than 3 in. DBH
	and greater than or equal to 3.28 ft (1 m) tall.
	Herb – All herbaceous (non-woody) plants, regardless
	of size, and woody plants less than 3.28 ft tall.
	Woody vines – All woody vines greater than 3.28 ft in
al Cover	height.
ui 0010i	
	_
	-
	_ Hydrophytic Vegetation
	Present? Yes <u>√</u> No
al Cover	
vegetatio	n.
	al Cover

SOIL Sampling Point: wasc062_u

Profile Desc	ription: (Describe	to the depti	n needed to docum	nent the i	ndicator	or confirm	the absence of	indicators.)
Depth	Matrix			x Features		Loc ²	Tourtura	Domarka
(inches)	Color (moist)	400	Color (moist)	<u>%</u>	Type ¹	LOC	<u>Texture</u>	Remarks
0-6	10YR 2/2	100						
6-20	10YR 4/2	100					LVFS_	
	-							
				· 				
	oncentration, D=Depl	etion, RM=I	Reduced Matrix, MS	S=Masked	Sand Gra	ains.		PL=Pore Lining, M=Matrix.
Hydric Soil								Problematic Hydric Soils ³ :
Histosol	(A1) pipedon (A2)	-	Polyvalue Belov MLRA 149B)		(S8) (LRF	₹R,		k (A10) (LRR K, L, MLRA 149B) airie Redox (A16) (LRR K, L, R)
Black Hi		_	Thin Dark Surfa		.RR R, MI	RA 149B)		ky Peat or Peat (S3) (LRR K, L, R)
	n Sulfide (A4)	-	Loamy Mucky N			, L)		ace (S7) (LRR K, L)
	d Layers (A5) d Below Dark Surface	_ - (Δ11)	Loamy Gleyed IDepleted Matrix)			Below Surface (S8) (LRR K, L) Surface (S9) (LRR K, L)
	ark Surface (A12)	_ (\(\) _	Redox Dark Sui					ganese Masses (F12) (LRR K, L, R)
-	lucky Mineral (S1)	_	Depleted Dark S	Surface (F	7)			Floodplain Soils (F19) (MLRA 149B)
	Gleyed Matrix (S4) Redox (S5)	-	Redox Depress	ions (F8)				odic (TA6) (MLRA 144A, 145, 149B) nt Material (F21)
-	Matrix (S6)							llow Dark Surface (TF12)
	rface (S7) (LRR R, N	ILRA 149B)						plain in Remarks)
³ Indicators of	f hydrophytic vegetat	ion and wet	land hydrology mus	t he nrese	ant unless	: disturbed	or problematic	
	_ayer (if observed):		iana nyarology mao	it be prese	ont, unicoc	diotarbea		
Type:								
Depth (inc	ches):						Hydric Soil Pro	esent? Yes No✓
Remarks:							I	
No hydrid	c soil indicator	s were	observed.					



wasc062_u_E



wasc062_u_S

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ashland Sampling Date: 2019-10-10					
•	State: WI Sampling Point: wasc064f_w					
_	Section, Township, Range: 046N-004W-08					
	cal relief (concave, convex, none): Concave Slope (%): 0-2%					
	7 Long: <u>-90.901569</u> Datum: <u>WGS84</u>					
	nt slopes NWI classification:					
Are climatic / hydrologic conditions on the site typical for this time of ye	·					
	disturbed? Are "Normal Circumstances" present? Yes ✓ No					
Are Vegetation, Soil, or Hydrology naturally pro						
SUMMARY OF FINDINGS – Attach site map showing	sampling point locations, transects, important features, etc.					
Hydrophytic Vegetation Present? Yes ✓ No	Is the Sampled Area					
Hydric Soil Present? Yes ✓ No	within a Wetland? Yes No					
Wetland Hydrology Present? Yes✓ No	If yes, optional Wetland Site ID:					
Remarks: (Explain alternative procedures here or in a separate repo	rt.)					
	a dry-mesic forest near a crop field. The wetland is a					
hardwood swamp and shares upland sample p	oint wasc063_u					
HYDROLOGY						
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)					
Primary Indicators (minimum of one is required; check all that apply)	· · · · · · · · · · · · · · · · · · ·					
Surface Water (A1) Water-Stained						
	Aquatic Fauna (B13) Moss Trim Lines (B16)					
Saturation (A3) Marl Deposits (B15) Dry-Season Water Table (C2)					
Water Marks (B1) Hydrogen Sulfi	de Odor (C1) Crayfish Burrows (C8)					
Sediment Deposits (B2) Oxidized Rhizo	spheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)					
Drift Deposits (B3) Presence of Re						
	duction in Tilled Soils (C6) Geomorphic Position (D2)					
Iron Deposits (B5) Thin Muck Surf	· · · · · · · · · · · · · · · · · · ·					
Inundation Visible on Aerial Imagery (B7) Other (Explain						
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)					
Field Observations:						
Surface Water Present? Yes No ✓ Depth (inches						
Water Table Present? Yes No _ ✓ Depth (inches) Saturation Present? Yes No _ ✓ Depth (inches)						
(includes capillary fringe)	Wetland Hydrology Present? Tes No					
Describe Recorded Data (stream gauge, monitoring well, aerial photo	s, previous inspections), if available:					
Remarks:						
The hydrologic regime is seasonally saturated	with recharge hydrology.					

VEGETATION – Use scientific names of plants.

EGETATION – Use scientific names of plants.				Sampling Point: wasc064f_w		
Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?		Dominance Test worksheet: Number of Dominant Species		
1. <u>Acer rubrum</u>	30.0	Y	FAC	That Are OBL, FACW, or FAC: (A)		
2. <u>Fraxinus pennsylvanica</u>	10.0	<u>Y</u>	<u>FACW</u>	Total Number of Dominant		
3. <i>Fraxinus nigra</i>	5.0	N	<u>FACW</u>	Species Across All Strata:5(B)		
4				Percent of Dominant Species		
5				That Are OBL, FACW, or FAC: 100.00 (A/B)		
6				Prevalence Index worksheet:		
7				Total % Cover of: Multiply by:		
	45.0	= Total Cov	/er	OBL species11 x 1 =11		
Sapling/Shrub Stratum (Plot size: 15')				FACW species101 x 2 =202		
1. <u>Ilex verticillata</u>	30.0	<u>Y</u>	<u>FACW</u>	FAC species <u>44</u> x 3 = <u>132</u>		
2				FACU species 7 x 4 = 28		
3				UPL species $0 \times 5 = 0$ Column Totals: $163 \times 6 \times 373 \times 6$		
4						
5				Prevalence Index = B/A = 2.29		
6				Hydrophytic Vegetation Indicators:		
7				1 - Rapid Test for Hydrophytic Vegetation		
		= Total Cov	/er	✓ 2 - Dominance Test is >50%		
Herb Stratum (Plot size:)				3 - Prevalence Index is ≤3.0¹		
1. Rubus pubescens	30.0	Y	FACW	4 - Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)		
2. <u>Carex intumescens</u>	20.0	Y	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)		
3. <u>Carex crinita</u>	10.0	N	OBL			
4. <u>Prunella vulgaris</u>		N	FAC	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
5. <u>Agrimonia striata</u>	5.0	N	<u>FACU</u>	Definitions of Vegetation Strata:		
6. <u>Athyrium angustum</u>	5.0	N	FAC			
7. <u>Ilex verticillata</u>	5.0	N	FACW	Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
8. <u>Rhamnus cathartica</u>		N	FAC	Sapling/shrub – Woody plants less than 3 in. DBH		
9. Symphyotrichum lateriflorum		N	FAC	and greater than or equal to 3.28 ft (1 m) tall.		
10. Pyrola elliptica	2.0	N	<u>FACU</u>	Herb – All herbaceous (non-woody) plants, regardless		
11. Equisetum sylvaticum	1.0	N	FACW	of size, and woody plants less than 3.28 ft tall.		
12. <u>Scutellaria lateriflora</u>	1.0	N	OBL	Woody vines – All woody vines greater than 3.28 ft in		
	88 = Total Cover		/er	height.		
Woody Vine Stratum (Plot size:)						
1						
2						
3				Hydrophytic		
4.				Vegetation		
	= Total Cover			Present? Yes No		
Remarks: (Include photo numbers here or on a separate s	sheet.)					
The wetland is dominated by Acer rubru		Fraxinu	s penns	sylvanica, with a relatively dense		

herbaceous layer due to a canopy opening.

SOIL Sampling Point: wasc064f_w

Profile Desc	cription: (D	escribe	to the dep	th needed	to docun	nent the i	ndicator	or confirm	the absence	e of indicators.)	
Depth (inches)	Color (r	Matrix	%	Color (r		x Features %	Type ¹	Loc ²	Texture	Remarks	
0-4		2/2	100	00101 (1	Ποιοτή		1,750		MMI	romano	
4-12	7.5YR	5/2	95	5YR	4/6	_5	С	M	SICL	Prominent redox	
12-20	5YR	4/4	95	5YR	4/6	_5_	_C	_M_	С	Distinct redox	
¹ Type: C=C		ı, D=Depl	letion, RM	=Reduced I	Matrix, MS	=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix.	
Hydric Soil				Dahan	alaa Dalaa	0((Oo) (I DI		Indicators for Problematic Hydric Soils ³ :		
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Redox (S5) Stripped Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B) Loamy Mucky Mineral (F1) (LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B)						LRA 149B)	2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Dark Surface (S7) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) or problematic.				
Type:	Layer (II Ob	sei veu).									
Depth (in	epth (inches):								Hydric Soil Present? Yes No		
Remarks: The soil	profile is	reduc	ced bel	ow a da	ark mu	cky lay	er.				



wasc064f_w_E



wasc064f_w_N

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

Evaluator(s):		
BRG/JSW		
Date of visit(s):		
10/10/2019		
Ecological Landsca	ape:	
Superior Coastal Plain		
Superior Coastai i iaiii		
Watershed: LS10, White River		
WWI Class:		
T3/5Kr		
Wetland Type(s):		
PFO - Hardwood Swamp		
	2	
Wetland Size:	Wetland Area Impacted	
0.04	0.04	
Vegetation:		
	Description(s):	
Hardwood swamp dominated by Acer rubrum		
and Fraxinus pennsylvanica, with a shrub		
*	icillata and a somewhat dense	
herbaceous laye	er.	
	BRG/JSW Date of visit(s): 10/10/2019 Ecological Landsca Superior Coastal Plain Watershed: LS10, White River WWI Class: T3/5Kr Wetland Type(s): PFO - Hardwood Wetland Size: 0.04 Vegetation: Plant Community E Hardwood swan and Fraxinus pe	

SITE MAP		

SECTION 1: Functional Value Assessment

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2 Y Y Water flow through wetland is NOT channelized 4 N N Vegetated wetland associated with a lake or stream 5 Y Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N Y Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N N Natural land cover in 100m buffer area < 50% GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic				
3 Y Y Water flow through wetland is NOT channelized 4 N N Vegetated wetland associated with a lake or stream 5 Y Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N Y Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50% GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N Wetland soils are organic				
4 N N Vegetated wetland associated with a lake or stream 5 Y Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N Y Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50%				
5 Y Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N Y Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50%	-	Υ	Υ	
6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N Y Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50% GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic	4	N	N	
7 N Y Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50%	5	Y	Υ	Dense, persistent vegetation
7 N Y Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50%	6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
8 N N Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50%	-			
9 N N Natural land cover in 100m buffer area < 50% GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic				
GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic				
1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic			1.4	
2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic	-	NI.	N1	
3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic				
4 N N Wetland soils are organic				
- 				
5 N N Wetland is within a wellhead protection area				
<u> </u>	5	N	l N	Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers)						
	FA-2: standing water is present in small pools between tussocks after rain events ST-5: relatively close to a crop field					
	•					
Wi	Idlife Habita	at and Species Observation (including amphibians and reptiles)				
Lis	st: direct ob	pservation, tracks, scat, other sign; type of habitat: nesting, migratory,				
	nter, etc.					
	•					
Observed	Potential	Species/Habitat/Comments				
	Υ	Deer				
	Υ	Avian				
Fis	sh and Aqua	atic Life Habitat and Species Observations				
		oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.				
Observed	Potential	Species/Habitat				
	Υ	Frogs				
	Y	Aquatic invertebrates				
		1				
	1					
	†					
	 					
	-					
	-					
ļ						

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3.✓	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Acer rubrum			PFO	Common
Fraxinus pennsylvanica			PFO	Common
Fraxinus nigra			PFO	Uncommon
llex verticillata			PFO	Common
Rubus pubescens			PFO	Common
Carex intumescens			PFO	Common
Carex crinita			PFO	Common
Prunella vulgaris			PFO	Uncommon
Agrimonia striata			PFO	Uncommon
Athyrium angustum			PFO	Uncommon
Rhamnus cathartica			PFO	Uncommon
Symphyotrichum lateriflorum			PFO	Uncommon
Pyrola elliptica			PFO	Uncommon
Equisetum sylvaticum			PFO	Rare
Scutellaria laterifola			PFO	Rare
	_			

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The wetland contains a small amount of Rhamnus cathartica on its edge, but the wetland itself has a mostly native plant community.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
. ,					Filling, berms (non-impounding)
	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
	Х		M	С	Point source or stormwater discharge
	Х		M	С	Polluted runoff
					Pond construction
	Х		M	С	Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
V					Removal of herbaceous stratum – mowing,
X	X		M		grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
Χ			L	U	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):
					<u> </u>

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The wetland potentially receives some stormwater runoff from the nearby crop field. Leaf litter shows that the wetland
is somewhat wormed.

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity		√	_		
Human Use Values		✓			
Wildlife Habitat		✓			
Fish and Aquatic Life Habitat		1			
Shoreline Protection					1
Flood and Stormwater Storage			√		
Water Quality Protection			√		
Groundwater Processes	√		·		

FUNCTION	RATIONALE
Floristic Integrity	Small amount of buckthorn
Human Use Values	Hunting potential
Wildlife Habitat	Good deer habitat
Fish and Aquatic Life Habitat	Standing water after rain events
Shoreline Protection	N/A
Flood and Stormwater Storage	Closed basin wih dense vegetative cover
Water Quality Protection	Potentially filters runoff from the nearby crop field
Groundwater Processes	Groundwater recharge

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ashland Sampling Date: 2019-10-10
	State: WI Sampling Point: wasc063_u
3	Section, Township, Range: 046N-004W-08
	al relief (concave, convex, none): None Slope (%): 0-2%
	Long: -90.901887 Datum: WGS84
	percent slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year	·
	disturbed? Are "Normal Circumstances" present? Yes ✓ No
Are Vegetation, Soil, or Hydrology naturally prob	
SUMMARY OF FINDINGS – Attach site map showing	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes ✓ No	Is the Sampled Area
Hydric Soil Present? Yes No✓	within a Wetland? Yes No✓
Wetland Hydrology Present? Yes No✓	If yes, optional Wetland Site ID:
Remarks: (Explain alternative procedures here or in a separate report The upland is located in a disturbed woodland re	:) near the edge of an agricultural field. This sample
point is shared with wetland wasc064f.	Tour the dage of all agricultural hold. This bampio
point to charge with wouldn't wasses in	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained L	
High Water Table (A2) Aquatic Fauna (I	
Saturation (A3) Marl Deposits (B	Dry-Season Water Table (C2)
Water Marks (B1) Hydrogen Sulfid	e Odor (C1) Crayfish Burrows (C8)
Sediment Deposits (B2) Oxidized Rhizos	pheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Presence of Rec	
	luction in Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck Surfa	
Inundation Visible on Aerial Imagery (B7) Other (Explain in	
Sparsely Vegetated Concave Surface (B8) Field Observations:	FAC-Neutral Test (D5)
Surface Water Present? Yes No _ ✓ _ Depth (inches):	
Water Table Present? Yes No _ Depth (inches):	
Saturation Present? Yes No Depth (inches):	
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos	s, previous inspections), if available:
Remarks:	
No indicators of wetland hydrology were observed	/ea.
I and the second	I

VEGETATION – Use scientific names of plants.

•			Sampling Point: <u>wasc063_u</u>			
			Dominance Test worksheet:			
	-		Number of Dominant Species That Are OBL, FACW, or FAC:5 (A)			
			Total Number of Dominant Species Across All Strata:			
			Percent of Dominant Species			
			That Are OBL, FACW, or FAC: 71.43 (A/B)			
			Prevalence Index worksheet:			
			Total % Cover of: Multiply by:			
			OBL species x 1 =0			
			FACW species 20 x 2 = 40			
10.0	Υ	FAC	FAC species <u>80</u> x 3 = <u>240</u>			
			FACU species40 x 4 =160			
			UPL species0 x 5 =0			
			Column Totals: <u>140</u> (A) <u>440</u> (B)			
			Prevalence Index = B/A = 3.14			
			Hydrophytic Vegetation Indicators:			
			1 - Rapid Test for Hydrophytic Vegetation			
			✓ 2 - Dominance Test is >50%			
<u></u>	= Total Co	ver	3 - Prevalence Index is ≤3.0 ¹			
40.0		E4011	4 - Morphological Adaptations ¹ (Provide supporting			
			data in Remarks or on a separate sheet)			
	<u> </u>		Problematic Hydrophytic Vegetation ¹ (Explain)			
			I 'Indicators of hydric soil and wetland hydrology mus			
			be present, unless disturbed or problematic.			
			Definitions of Vegetation Strata:			
5.0	N	<u>FACU</u>	Tree – Woody plants 3 in. (7.6 cm) or more in diameter			
			at breast height (DBH), regardless of height.			
			Sapling/shrub – Woody plants less than 3 in. DBH			
			and greater than or equal to 3.28 ft (1 m) tall.			
			Herb - All herbaceous (non-woody) plants, regardless			
			of size, and woody plants less than 3.28 ft tall.			
			Woody vines – All woody vines greater than 3.28 ft in			
<u>45</u> =	= Total Co	ver	height.			
			Hydrophytic			
			Hydrophytic Vegetation Present? Yes ✓ No			
	% Cover 50.0	% Cover Species? 50.0 Y 25.0 Y 75.0 = Total Co 10.0 Y 10.0 Y 10.0 Y 10.0 Y 10.0 Y 5.0 N 5.0 N 5.0 N	% Cover Species? Status 50.0 Y FAC 25.0 Y FACU 75.0 = Total Cover 10.0 Y FACW 20.0 = Total Cover 10.0 Y FACU 10.0 Y FACW 10.0 Y FACW 5.0 N FAC 5.0 N FAC 5.0 N FACU 5.0 N FACU 5.0 N FACU			

SOIL Sampling Point: wasc063_u

Profile Desc	cription: (Describe	to the dep	th needed to	documer	nt the in	ndicator	or confirm	the absence	of indicators.)		
Depth	Matrix			Redox F			. 2	- .	5		
(inches)	Color (moist)	<u>%</u>	Color (moi	ist)	%	Type'	Loc ²	Texture	Remarks		
0-16		100						_SIL_			
<u>16-20</u>	7.5YR 5/2	_95_	7.5YR 4	<u> 1/6 </u>	5_	C	_M_	SICL	Prominent redox		
-											
									 -		
¹ Type: C=C	oncentration, D=Depl	letion, RM	=Reduced Mat	trix, MS=N	Masked	Sand Gr	ains.	² Location	n: PL=Pore Lining, M=Matrix.		
Hydric Soil		,		, -					for Problematic Hydric Soils ³ :		
Histosol				e Below S	Surface	(S8) (LRI	RR,		Muck (A10) (LRR K, L, MLRA 149B)		
	pipedon (A2) istic (A3)			k Surface	(S9) (L	RR R. M	LRA 149B)		Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R)		
Hydroge	en Sulfide (A4)		Loamy M	lucky Mine	eral (F1) (LRR K		Dark S	Surface (S7) (LRR K, L)		
	d Layers (A5)	- (044)		leyed Mat					alue Below Surface (S8) (LRR K, L)		
	d Below Dark Surface ark Surface (A12)	e (A11)		Matrix (F: ark Surfac				Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R)			
	Mucky Mineral (S1)			Dark Sur		7)		Piedmont Floodplain Soils (F19) (MLRA 149B)			
	Gleyed Matrix (S4)		Redox D	epression	s (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
	Redox (S5) d Matrix (S6)							Red Parent Material (F21) Very Shallow Dark Surface (TF12)			
	urface (S7) (LRR R, N	ILRA 149	В)					Other (Explain in Remarks)			
³ Indicators o	f hydrophytic vegetat	ion and w	etland hydrolog	gy must be	e prese	nt, unles:	s disturbed	or problemati	c.		
	Layer (if observed):										
Type:											
Depth (in	ches):							Hydric Soi	Present? Yes No _✓_		
Remarks:	ators of hydric	soil we	ere ohserv	/ed							
140 inaide	ators or riyuno	JOII W	or observ	rca.							



wasc063_u_E



wasc063_u_N

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Reloca	tion Proiect	City/C	County: Ashland		Sampling Date: <u>2019-10-10</u>
Applicant/Owner: Enbridge	•				
Investigator(s): BRG/JSW					
Landform (hillslope, terrace, etc.):					
Subregion (LRR or MLRA): North					
Soil Map Unit Name: Sanborg					
Are climatic / hydrologic condition			•		
Are Vegetation, Soil		-			
Are Vegetation, Soil					
-	-				
SUMMARY OF FINDINGS	- Attach site	map showing san	npling point locat	ions, transects,	important features, etc.
Hydrophytic Vegetation Present		/ No	Is the Sampled Area		
Hydric Soil Present?		/ No	within a Wetland?	Yes <u>√</u>	_ No
Wetland Hydrology Present?		/ No	If yes, optional Wetla	nd Site ID:	
Remarks: (Explain alternative p The wetland is a smal			cated within a d	dry-mesic fore	st and dominated by
llex verticillata.	i om ab aom	mated reature to	oatoa witiiiii a c	11 y 1110010 10100	st and dominated by
nox vortioniata.					
HYDROLOGY Wetland Hydrology Indicators	<u> </u>			Socondary Indicas	tors (minimum of two required)
Primary Indicators (minimum of		neck all that apply)		-	
Surface Water (A1)	-	✓ Water-Stained Leave		Orainage Pati	
High Water Table (A2)		Aquatic Fauna (B13)		Moss Trim Lir	
Saturation (A3)		Marl Deposits (B15)			Vater Table (C2)
Water Marks (B1)		Hydrogen Sulfide Od	or (C1)	Crayfish Burre	
Sediment Deposits (B2)		Oxidized Rhizospher			sible on Aerial Imagery (C9)
Drift Deposits (B3)		Presence of Reduced	-		ressed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduction		✓ Geomorphic F	
Iron Deposits (B5)		Thin Muck Surface (0		Shallow Aquit	
Inundation Visible on Aerial		Other (Explain in Rer		Microtopogra	
Sparsely Vegetated Concav			,	FAC-Neutral	
Field Observations:					
Surface Water Present?	Yes No	/ Depth (inches):			
		/ Depth (inches):			
Saturation Present? (includes capillary fringe)	Yes No•	/ Depth (inches):	Wetland	d Hydrology Present	t? Yes <u>√</u> No
Describe Recorded Data (stream	n gauge, monitorir	ng well, aerial photos, pre	vious inspections), if a	vailable:	
Remarks:					
The hydrologic regime	e is seasona	Ilv saturated, wit	h recharge hyd	roloav.	
		,			
ĺ.					I

VEGETATION – Use scientific names of plants.

10.0 5.0 5.0	Y Y Y	FAC FAC FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A) Total Number of Dominant Species Across All Strata: 7 (B)
10.0 5.0 5.0	Y Y Y	FAC FAC FAC	That Are OBL, FACW, or FAC: (A) Total Number of Dominant
5.0 5.0	Y Y	FAC FAC	Total Number of Dominant
5.0	Y	<u>FAC</u>	
			()
			Develop of Developed Consider
			Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B
			·
			Prevalence Index worksheet:
		· .	Total % Cover of: Multiply by:
<u> 20.0</u> =	= Total Co	ver	OBL species0 x 1 =0 FACW species82 x 2 =164
00.0	V	E 4 (C) 4 /	FAC species16 x3 =48
			FACU species
			UPL species 0 x 5 = 0
			Column Totals: <u>98</u> (A) <u>212</u> (B)
			Drawalanca Indon D/A 2.16
			Prevalence Index = B/A = 2.16
		· ———	Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
<u>60.0</u> =	= Total Co	ver	2 - Dominance Test is >50%
			3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting the supportion of the supportion of the supportion of the supportion of the supportion of the support of the s
5.0	Y	FAC	data in Remarks or on a separate sheet)
5.0	Y	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
5.0	Y	FACW	10 11 11 11 11 11 11 11 11 11 11 11 11 1
2.0	N	FACW	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
		FAC	Definitions of Vegetation Strata:
			Tree – Woody plants 3 in. (7.6 cm) or more in diamete at breast height (DBH), regardless of height.
			Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
			Herb – All herbaceous (non-woody) plants, regardless
		·	of size, and woody plants less than 3.28 ft tall.
		· 	Woody vines – All woody vines greater than 3.28 ft in
18 .	- Total Co	vor	height.
10_	= Total Co	vei	
			Hydrophytic Vegetation
			Present? Yes/ No
	= Total Co		
	5.0 5.0 5.0 1.0	20.0 = Total Co 60.0 Y 60.0 = Total Co 5.0 Y 5.0 Y 2.0 N 1.0 N	5.0 Y FAC 5.0 Y FACW 5.0 Y FACW 2.0 N FACW 1.0 N FAC

SOIL Sampling Point: wasc063s_w

Depth Matrix Redox Features						
(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)						
(inches) Color (moist) % Color (moist) % Type¹ Loc² Texture Remarks						
<u>0-6 7.5YR 3/2 100 L</u>						
6-20 7.5YR 5/2 90 7.5YR 5/6 10 C M SCL Distinct redox						
Times C. Concentration D. Donletion DM. Deduced Matrix MC Mached Cond Codes						
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Hydric Soil Indicators: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. C=Concentration, D=Depletion, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. C=Concentration, D=Depletion, D=Dep						
Histosol (A1)						
Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R)						
Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, L)	₹)					
Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L) Dark Surface (S7) (LRR K, L) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Polyvalue Below Surface (S8) (LRR K, L)						
Stratified Eayers (AS) Edathy Gleyed Matrix (F2) Follywarde Below Surface (S9) (LRR K, L) Depleted Below Dark Surface (S9) (LRR K, L) Depleted Matrix (F3) Thin Dark Surface (S9) (LRR K, L)						
Thick Dark Surface (A12) Redox Dark Surface (F6) Iron-Manganese Masses (F12) (LRR K, L,	R)					
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 14						
Sandy Gleyed Matrix (S4) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 145	9B)					
	_∠ Red Parent Material (F21) Very Shallow Dark Surface (TF12)					
	Other (Explain in Remarks)					
³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.						
Restrictive Layer (if observed):						
Type: Depth (inches): Hydric Soil Present? Yes / _ No						
Espair (monos).						
Remarks:						
Soils are reduced in the lower layer.						



wasc063s_w_N



wasc063s_w_W

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION				
Project name: Line 5 Relocation Project	Evaluator(s): BRG/JSW			
File #: wasc063	Date of visit(s): 10/10/2019			
Location: PLSS: 046N-004W-08	Ecological Landsca Superior Coastal Plain	ape:		
Lat: <u>46.479447</u> Long: <u>-90.902107</u>	Watershed: LS10, White River			
County: Ashland Town/City/Village: White River town				
SITE DESCRIPTION				
Soils: Mapped Type(s):	WWI Class: T3/5Kr			
580B Sanborg-Badriver complex	Wetland Type(s): PSS - Shrub-Carr			
Field Verified:				
Series not verified. Soils were loam above sandy clay loam.	Wetland Size: 0.05	Wetland Area Impacted 0.05		
Hydrology:	Vegetation: Plant Community D	. , ,		
The hydrologic regime is seasonally saturated, with recharge hydrology.		munity dominated by Ilex sparse tree and herbaceous		

SITE MAP		

SECTION 1: Functional Value Assessment

HU YNN Potential Human Use Values: recreation, culture, education, science, natural scenic beauty 1 N Y Used for reducational or scientific purposes 3 N N Visually or physically accessible to public 4 N Y Assthetically pleasing due to diversity of habitat types, lack of pollution or degradation 5 N N I visually or physically accessible to public 6 N N Supports or provides habitat for endangered, threatened or special concern species 7 In or adjacent to RED FLAG areas 1 In or adjacent to archaeological or cultural resource site WH WI Wildlife Habitat 1 N N Wetland and contiguous habitat 10 acres 2 Y Y 3 or more strata present (1-10% cover) 3 N N Within or adjacent to habitat corridor or established wildlife habitat area 4 N N 100 m buffer – natural land cover ≥50% (south) 75% (north) intact 5 N N 100 m buffer – natural land cover ≥50% (south) 75% (north) intact 6 N N Interspersion of habitat structure (hemi-marh, shrub/emergent, wetland/upland complex, etc.) 7 N Y Supports or provides habitat for SGCN or birds listed in the Wi Alf-Bird Cons. Plan, or other plans 8 N N Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Wetland is connected or contiguous with perennial stream or lake 12 N Y Provides habitat for scarce in the area (urban, agricultural, etc.) 13 N N Natural Heritage Inventory (NHI) listed a quatic species within aquatic system 14 N N Wetland is connected or contiguous with perennial stream or lake 15 N N Nitratal Heritage Inventory (NHI) stated aquatic species within aquatic system 16 N N Patrol flashy hydrology 17 N Y Standing water provides habitat for amphibians and aquatic invertebrates 18 N N Natural Heritage Inventory (NHI) stated aquatic species within aquatic system 19 N N Standing water provides habitat for amphibians and apuatic invertebrates 2 N N Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Netural He			ECTION 1:	Functional Value Assessment				
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WQ Water Quality Protection 1 Y Provides substantial storage of storm and floodwater based on previous section 2 Y Y Basin wetland or constricted outlet 3 Y Y Water flow through wetland is NOT channelized 4 N N Vegetated wetland associated with a lake or stream 5 Y Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N Y Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50%	-							
1 Y Y Provides substantial storage of storm and floodwater based on previous section 2 Y Y Basin wetland or constricted outlet 3 Y Y Water flow through wetland is NOT channelized 4 N N Vegetated wetland associated with a lake or stream 5 Y Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N Y Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50%		N	N					
2 Y Y Water flow through wetland is NOT channelized 4 N N Vegetated wetland associated with a lake or stream 5 Y Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N Y Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N N Natural land cover in 100m buffer area < 50% GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic								
3 Y Y Water flow through wetland is NOT channelized 4 N N Vegetated wetland associated with a lake or stream 5 Y Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N Y Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50% GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N Wetland soils are organic								
4 N N Vegetated wetland associated with a lake or stream 5 Y Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N Y Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50%								
5 Y Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N Y Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50%	-	Υ	Υ					
6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N Y Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50% GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic	4	N	N					
7 N Y Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50%	5	Y	Υ	Dense, persistent vegetation				
7 N Y Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50%	6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth				
8 N N Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50%	-							
9 N N Natural land cover in 100m buffer area < 50% GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic								
GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic								
1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic			1.4					
2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic	-	NI.	N1					
3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic								
4 N N Wetland soils are organic								
- 								
5 N N Wetland is within a wellhead protection area								
<u> </u>	5	N	l N	Wetland is within a wellhead protection area				

Section 1 Comments (Refer to Section 1 numbers)							
HU-1: the high quantity of llex verticillata provides good deer habitat							
ST-3: the wetland has a thick cover of shrubs, but sparse herbaceous vegetation ST-5: relatively close to a crop field							
Wi	Idlife Habita	at and Species Observation (including amphibians and reptiles)					
		oservation, tracks, scat, other sign; type of habitat: nesting, migratory,					
		oservation, tracks, scat, other sign, type of habitat. hesting, hillgratory,					
WI	nter, etc.						
Observed	Detential	Charica/Habitat/Comments					
Observed	Potential	Species/Habitat/Comments					
	Y	Deer					
	Υ	Avian					
	+						
		atic Life Habitat and Species Observations					
Lis	st: direct of	oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.					
Observed	Potential	Species/Habitat					
	Υ	Frogs					
	Y	Aquatic invertebrates					
		, iquality intollogically					
	-						

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S47	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
Fraxinus pensylvanica			PSS	Common
Abies balsamea			PSS	Uncommon
Acer rubrum			PSS	Uncommon
llex verticillata			PSS	Abundant
Rhamnus cathartica			PSS	Uncommon
Carex intumescens			PSS	Uncommon
Rubus pubescens			PSS	Uncommon
Symphyotrichum Iteriflorum			PSS	Rare

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The wetland contains low cover of invasive species and has somewhat low diversity.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
	Х		L	С	Point source or stormwater discharge
	Х		L	С	Polluted runoff
					Pond construction
	Х		L	С	Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing,
					grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
Х	Х		L	U	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):
					, , ,

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The wetland is not significantly impacted by the nearby crop field.

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E						
	Low	Medium	High	Exceptional	NA					
Floristic Integrity		√								
Human Use Values		√								
Wildlife Habitat			√							
Fish and Aquatic Life Habitat		√								
Shoreline Protection					√					
Flood and Stormwater Storage		1								
Water Quality Protection		√								
Groundwater Processes	√									

FUNCTION	RATIONALE
Floristic Integrity	Low cover of invasive species, low species diversity
Human Use Values	Hunting potential
Wildlife Habitat	Good deer habitat
Fish and Aquatic Life Habitat	Standing water after rain events
Shoreline Protection	N/A
Flood and Stormwater Storage	Closed basin wih thick shrub cover, little to no runoff from nearby crop field
Water Quality Protection	See above
Groundwater Processes	Groundwater recharge

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relo	cation Project	t	City/C	ounty: Ash	land	Sa	ampling Date: 🔏	<u> 2019-10-10</u>	
Applicant/Owner: Enbrida	•								
Investigator(s): JSW/BRO									
Landform (hillslope, terrace, e									
Subregion (LRR or MLRA): N									
Soil Map Unit Name: Sanb									
Are climatic / hydrologic condi	· ·	•	•						
Are Vegetation, Soil _								/ No	
Are Vegetation, Soil								110	
_						-			
SUMMARY OF FINDING	GS – Attach sit	te map	showing sam	pling poir	nt location	s, transects, ii	mportant fea	atures, etc.	
Hydrophytic Vegetation Pres			No	Is the Samp		Yes	No 🗸		
Hydric Soil Present?			No <u>√</u>						
Wetland Hydrology Present? Remarks: (Explain alternative)	ye procedures here (nr in a se	enarate report)	If yes, option	nai Wetland S	ite ID:			
The upland is locate				r the edg	e of an a	gricultural fie	ld. This sa	ımple	
point is shared with	wetland was	c064f.		_				-	
HYDROLOGY									
Wetland Hydrology Indicat	tors:				<u>S</u>	econdary Indicator	s (minimum of t	wo required)	
Primary Indicators (minimum	n of one is required;	check all	that apply)			_ Surface Soil Cra	acks (B6)		
Surface Water (A1)		Wa	ater-Stained Leaves	s (B9)	_	_ Drainage Patter	ns (B10)		
High Water Table (A2)		Aq	uatic Fauna (B13)		_	_ Moss Trim Lines	s (B16)		
Saturation (A3)			rl Deposits (B15)		_		Dry-Season Water Table (C2)		
Water Marks (B1)			drogen Sulfide Odd			Crayfish Burrow			
Sediment Deposits (B2)			idized Rhizosphere	_		Saturation Visib			
Drift Deposits (B3)			esence of Reduced	. ,		_ Stunted or Stres)	
Algal Mat or Crust (B4)			cent Iron Reduction			_ Geomorphic Po			
Iron Deposits (B5) Inundation Visible on Ae	orial Images, (D7)		in Muck Surface (C			_ Shallow Aquitar			
	• • • •	Ou	ner (Explain in Rem	iaiks)	_	Microtopograph			
Sparsely Vegetated Cor Field Observations:	icave Surface (Bo)					_ FAC-Neutral Te	St (D3)		
Surface Water Present?	Yes No	√ D ₄	epth (inches):						
Water Table Present?			epth (inches):						
Saturation Present?			epth (inches):		Wetland Hyd	drology Present?	Yes	No 🗸	
(includes capillary fringe)					•	•			
Describe Recorded Data (str	ream gauge, monitor	ring well,	aerial photos, pre-	vious inspect	ions), if availa	ıble:			
Remarks:									
No indicators of we	tland hydrolog	av we	re observed.						
	,								
I									

VEGETATION – Use scientific names of plants.

•			Sampling Point: <u>wasc063_u</u>		
			Dominance Test worksheet:		
	-		Number of Dominant Species That Are OBL, FACW, or FAC:5 (A)		
			Total Number of Dominant Species Across All Strata:		
			Percent of Dominant Species		
			That Are OBL, FACW, or FAC: 71.43 (A/B)		
			Prevalence Index worksheet:		
			Total % Cover of: Multiply by:		
			OBL species x 1 =0		
			FACW species 20 x 2 = 40		
10.0	Υ	FAC	FAC species <u>80</u> x 3 = <u>240</u>		
			FACU species40 x 4 =160		
			UPL species0 x 5 =0		
			Column Totals: <u>140</u> (A) <u>440</u> (B)		
			Prevalence Index = B/A = 3.14		
			Hydrophytic Vegetation Indicators:		
			1 - Rapid Test for Hydrophytic Vegetation		
			✓ 2 - Dominance Test is >50%		
<u></u>	= Total Co	ver	3 - Prevalence Index is ≤3.0¹		
40.0		E4011	4 - Morphological Adaptations ¹ (Provide supporting		
	Y				
	<u> </u>				
			I 'Indicators of hydric soil and wetland hydrology must		
			be present, unless disturbed or problematic.		
			Definitions of Vegetation Strata:		
5.0	N	<u>FACU</u>	Tree – Woody plants 3 in. (7.6 cm) or more in diameter		
			at breast height (DBH), regardless of height.		
			Sapling/shrub – Woody plants less than 3 in. DBH		
			and greater than or equal to 3.28 ft (1 m) tall.		
			Herb - All herbaceous (non-woody) plants, regardless		
			of size, and woody plants less than 3.28 ft tall.		
			Woody vines – All woody vines greater than 3.28 ft in		
<u>45</u> =	= Total Co	ver	height.		
			Hydrophytic		
			Hydrophytic Vegetation Present? Yes ✓ No		
	% Cover 50.0	% Cover Species? 50.0 Y 25.0 Y 75.0 = Total Co 10.0 Y 10.0 Y 10.0 Y 10.0 Y 10.0 Y 5.0 N 5.0 N 5.0 N	% Cover Species? Status 50.0 Y FAC 25.0 Y FACU 75.0 = Total Cover 10.0 Y FACW 20.0 = Total Cover 10.0 Y FACU 10.0 Y FACW 10.0 Y FACW 5.0 N FAC 5.0 N FAC 5.0 N FACU 5.0 N FACU 5.0 N FACU		

SOIL Sampling Point: wasc063_u

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)											
Depth Matrix Redox Features (inches) Color (moist) % Color (moist) % Type¹ Loc²									5		
(inches)	Color (moist)	<u>%</u>	Color (moi	ist)	%	Type'	Loc ²	Texture	Remarks		
0-16		100						_SIL_			
<u>16-20</u>	7.5YR 5/2	_95_	7.5YR 4	<u> 1/6 </u>	5_	C	_M_	SICL	Prominent redox		
-											
					·						
¹ Type: C=C	oncentration, D=Depl	letion, RM	=Reduced Mat	trix, MS=N	Masked	Sand Gr	ains.	² Location	n: PL=Pore Lining, M=Matrix.		
Hydric Soil		,		, -					for Problematic Hydric Soils ³ :		
Histosol				e Below S	Surface	(S8) (LRI	RR,		Muck (A10) (LRR K, L, MLRA 149B)		
	pipedon (A2) istic (A3)			k Surface	(S9) (L	RR R. M	LRA 149B)		Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R)		
Hydroge	en Sulfide (A4)		Loamy M	lucky Mine	eral (F1) (LRR K		Dark S	Surface (S7) (LRR K, L)		
	d Layers (A5)	- (044)		leyed Mat				Polyvalue Below Surface (S8) (LRR K, L)			
	d Below Dark Surface ark Surface (A12)	e (A11)		Matrix (F: ark Surfac				Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R)			
	Mucky Mineral (S1)			Dark Sur		7)		Piedmont Floodplain Soils (F19) (MLRA 149B)Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
	Gleyed Matrix (S4)		Redox D	epression	s (F8)						
	Redox (S5) d Matrix (S6)							Red Parent Material (F21) Very Shallow Dark Surface (TF12)			
	urface (S7) (LRR R, N	ILRA 149	В)						(Explain in Remarks)		
³ Indicators o	f hydrophytic vegetat	ion and w	etland hydrolog	gy must be	e prese	nt, unles:	s disturbed	or problemati	c.		
	Layer (if observed):										
Type:											
Depth (in	ches):							Hydric Soi	Present? Yes No _✓_		
Remarks:	ators of hydric	soil we	ere ohserv	/ed							
140 inaide	ators or riyuno	JOII W	or observ	rca.							



wasc063_u_E



wasc063_u_N

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: As	hland	Sampling Date: 2019-10-10		
Applicant/Owner: Enbridge					
Investigator(s): BRG/JSW			· · · · ·		
Landform (hillslope, terrace, etc.): Depression					
Subregion (LRR or MLRA): Northcentral Forests Lat: 4					
Soil Map Unit Name: Odanah silt loam, 6 to 15					
Are climatic / hydrologic conditions on the site typical for the	•				
	•				
Are Vegetation, Soil, or Hydrology					
Are Vegetation, Soil, or Hydrology	naturally problematic?	(If needed, explain any answ	vers in Remarks.)		
SUMMARY OF FINDINGS – Attach site map	showing sampling poi	int locations, transect	s, important features, etc.		
Hydrophytic Vegetation Present? Yes ✓	No Is the Sam	npled Area			
Hydric Soil Present? Yes		/etland? Yes <u>√</u>	No		
Wetland Hydrology Present? Yes ✓		onal Wetland Site ID:			
Remarks: (Explain alternative procedures here or in a se The wetland is located on the edge of	eparate report.) a hayed field and a r	mesic forest.			
HYDROLOGY		O d l - d'			
Wetland Hydrology Indicators:	Lith at an ab A	·	cators (minimum of two required)		
Primary Indicators (minimum of one is required; check all		Surface So			
	ater-Stained Leaves (B9)	Drainage P			
	juatic Fauna (B13) arl Deposits (B15)		Lines (B16)		
	rdrogen Sulfide Odor (C1)	 Dry-Season Water Table (C2) Crayfish Burrows (C8)			
	kidized Rhizospheres on Living		Visible on Aerial Imagery (C9)		
	esence of Reduced Iron (C4)	· · · —	Stressed Plants (D1)		
	ecent Iron Reduction in Tilled So				
	in Muck Surface (C7)	Shallow Aq			
	her (Explain in Remarks)		raphic Relief (D4)		
Sparsely Vegetated Concave Surface (B8)	,		al Test (D5)		
Field Observations:			· ·		
Surface Water Present? Yes No ✓ _ De	epth (inches):				
Water Table Present? Yes _ ✓ No De	epth (inches): 8				
	epth (inches): 0	Wetland Hydrology Prese	ent? Yes <u>√</u> No		
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well,	aerial photos previous inspec	tions) if available:			
Describe Recorded Data (Stream gauge, monitoring well,	, aeriai priotos, previous irispec	nons), ii avaliable.			
Remarks:	aturatad with raabar	as budralagu. Tha i	wetlend receives word		
The hydrologic regime is seasonally sa		ge nyarology. The v	wetiand receives runoff		
from the adjacent/surrounding hay field	d.				

VEGETATION – Use scientific names of plants.

	Abooluto					
Tree Stratum (Plot size: 30')			t Indicator Status	Dominance Test worksheet:		
1				Number of Dominant Species That Are OBL, FACW, or FAC:1 (A)		
2				Total Number of Dominant		
3				Species Across All Strata:1 (B)		
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)		
5						
6				Prevalence Index worksheet:		
7	0.0			Total % Cover of: Multiply by:		
Continue/Chrysh Ctratum (Diet size) 15'		= Total Ct	over	OBL species5 x 1 =5 FACW species90 x 2 =180		
Sapling/Shrub Stratum (Plot size:15')				FAC species 5 x3 = 15		
				FACU species1 x 4 =4		
2				UPL species0 x 5 =0		
3				Column Totals: <u>101</u> (A) <u>204</u> (B)		
l				Prevalence Index = B/A = 2.02		
5						
S				Hydrophytic Vegetation Indicators:		
7				✓ 1 - Rapid Test for Hydrophytic Vegetation✓ 2 - Dominance Test is >50%		
	= Total Cover			✓ 3 - Prevalence Index is ≤3.0¹		
Herb Stratum (Plot size: 5') 1. Panicum dichotomiflorum	80.0	Υ	FACW	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)		
2. <u>Phalaris arundinacea</u>			FACW	Problematic Hydrophytic Vegetation ¹ (Explain)		
3. <u>Persicaria hydropiper</u>		N	OBL			
4. <u>Setaria viridis</u>		N	NI	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
5. <u>Setaria pumila</u>		N	FAC			
6. <u>Panicum capillare</u>		N	FAC	Definitions of Vegetation Strata:		
7. <u>Trifolium repens</u>		N	FACU	Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
a. <u>Echinochloa crus-galli</u>						
9			17.0	Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.		
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.		
11		-				
12				Woody vines – All woody vines greater than 3.28 ft in height.		
	106	= Total Co	over			
Noody Vine Stratum (Plot size:)						
1						
2.						
3				Hydrophytic		
4				Vegetation Present? Yes No		
	0.0	= Total Co	over			
Remarks: (Include photo numbers here or on a separate The wetland is dominated by weedy sp arundinacea.	sheet.) Pecies, n	nostly F	anicum	dichotomiflorum and Phalaris		

SOIL Sampling Point: wasc065e_w

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)											
Depth	Matrix										
(inches)	Color (moist)	<u>%</u>	Color (mo		<u></u> %	Type ¹	Loc ²	<u>Texture</u>	Remarks		
0-20	7.5YR 2.5/2	90	5YR	4/6	_10_	_C_	M	CL	Prominent redox		
-						-	-				
	-										
							-				
	oncentration, D=Deple	etion, RM	=Reduced Ma	atrix, MS	=Masked	Sand Gra	ains.		n: PL=Pore Lining, M=Matrix.		
Hydric Soil I			Dahasak	Dalau	. 0	(CO) /I DI			for Problematic Hydric Soils ³ :		
Histosol	pipedon (A2)		-	ie Below A 149B)	/ Surface	(58) (LRI	κκ,		Muck (A10) (LRR K, L, MLRA 149B) Prairie Redox (A16) (LRR K, L, R)		
Black Hi				,	ce (S9) (L	.RR R, MI	LRA 149B)		Mucky Peat or Peat (S3) (LRR K, L, R)		
	n Sulfide (A4)		Loamy I	Mucky M	lineral (F1) (LRR K		Dark Surface (S7) (LRR K, L)			
	d Layers (A5)			-	/latrix (F2))			alue Below Surface (S8) (LRR K, L)		
	d Below Dark Surface ark Surface (A12)	(A11)	Deplete		(F3) face (F6)				ark Surface (S9) (LRR K, L) anganese Masses (F12) (LRR K, L, R)		
	fucky Mineral (S1)				Surface (F6)	7)			ont Floodplain Soils (F19) (MLRA 149B)		
	Gleyed Matrix (S4)				ons (F8)	• ,			Spodic (TA6) (MLRA 144A, 145, 149B)		
Sandy R	tedox (S5)			·	, ,				arent Material (F21)		
	Matrix (S6)								Shallow Dark Surface (TF12)		
Dark Su	rface (S7) (LRR R, M	LRA 1491	3)					Other	(Explain in Remarks)		
³ Indicators of	f hydrophytic vegetation	on and we	etland hydrolo	gy must	t be prese	ent, unless	disturbed	or problemation	c.		
	_ayer (if observed):		•	<u> </u>	•			<u> </u>			
Туре:											
Depth (inc	ches):							Hydric Soil	Present? Yes/ No		
Remarks:	no di co o di Alemani		41								
Solls are	reduced throu	ignout	the profil	e.							



wasc065e_w_S



wasc065e_w_W

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION				
Project name: Line 5 Relocation Project	Evaluator(s): BRG/JSW			
File #: wasc065	Date of visit(s): 10/10/2019			
Location: PLSS: 046N-004W-08	Ecological Landscape: Superior Coastal Plain			
Lat: 46.479026 Long: -90.901155 County: Ashland Town/City/Village: White River town	Watershed: LS10, White River			
SITE DESCRIPTION				
Soils: Mapped Type(s): 280C Odanah silt loam	WWI Class: N/A Wetland Type(s):			
Field Verified:	PEM - Fresh We	et Meadow		
Series not verified. Soils were clay loam throughout the profile.	Wetland Size: 0.05	Wetland Area Impacted 0.05		
	Vegetation: Plant Community D	Description(s):		
Hydrology: The hydrologic regime is seasonally saturated, with recharge hydrology. The wetland receives runoff from the adjacent hayed field.	Fresh wet meadow dominated by Panicum dichotomiflorum and Phalaris arundinacea.			

SITE MAP		

SECTION 1: Functional Value Assessment

SECTION 1: Functional Value Assessment							
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty				
1	Ν	Ν	Used for recreation (hunting, birding, hiking, etc.). List:				
2	N	N	Used for educational or scientific purposes				
3	N	N	Visually or physically accessible to public				
4	Ν	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation				
			In or adjacent to RED FLAG areas				
5	N	N	List:				
6	N	N	Supports or provides habitat for endangered, threatened or special concern species				
7	- 1		In or adjacent to archaeological or cultural resource site				
WH			Wildlife Habitat				
1	N	N	Wetland and contiguous habitat >10 acres				
2	N	N	3 or more strata present (>10% cover)				
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area				
4	N	N	100 m buffer – natural land cover ≥50%(south) 75% (north) intact				
5		N N	Occurs in a Joint Venture priority township				
6	N		Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)				
0	N	N	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other				
7	N	Υ					
			plans				
8	N	N	Part of a large habitat block that supports area sensitive species				
9	N	N	Ephemeral pond with water present > 45 days				
10	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates				
11	N	N	Seasonally exposed mudflats present				
12	N	Υ	Provides habitat scarce in the area (urban, agricultural, etc.)				
FA			Fish and Aquatic Life Habitat				
1	N	N	Wetland is connected or contiguous with perennial stream or lake				
2	Ν	Υ	Standing water provides habitat for amphibians and aquatic invertebrates				
3	Ν	Ν	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system				
4	Υ	Υ	Vegetation is inundated in spring				
SP			Shoreline Protection				
1	N	N	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable				
2			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating				
2	N	N	water levels or high flows – if no, not applicable				
3	N	N	Densely rooted emergent or woody vegetation				
ST			Storm and Floodwater Storage				
1	Υ	Y	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream				
2	Y	Y	Water flow through wetland is NOT channelized				
3	Y	Y	Dense, persistent vegetation				
4	N	N	Evidence of flashy hydrology				
5	Y	Y	Point or non-point source inflow				
6	N	N	Impervious surfaces cover >10% of land surface within the watershed				
7	N	N	Within a watershed with <10% wetland				
8	N	N N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event				
WQ	IN	IN	Water Quality Protection				
1	\ <u>'</u>	\/	Provides substantial storage of storm and floodwater based on previous section				
	Y	Y	Basin wetland or constricted outlet				
2	Y	Y					
3	Y	Y	Water flow through wetland is NOT channelized				
4	N	N	Vegetated wetland associated with a lake or stream				
5	Y	Y	Dense, persistent vegetation				
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth				
7	Υ	Υ	Stormwater or surface water from agricultural land is major hydrology source				
8	N	N	Discharge to surface water				
9	Υ	Υ	Natural land cover in 100m buffer area < 50%				
GW			Groundwater Processes				
1	N	N	Springs, seeps or indicators of groundwater present				
2	N	N	Location near a groundwater divide or a headwater wetland				
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs				
4	N	N	Wetland soils are organic				
5	N	N	Wetland is within a wellhead protection area				
ı 0	I N	IN	Trougha to within a womitoda protodion area				

		nments (Refer to Section 1 numbers)
		ng water to pool in the depression after rain events ayfield is roughly linear, but the wetland has no clear channel
		at and Species Observation (including amphibians and reptiles)
		oservation, tracks, scat, other sign; type of habitat: nesting, migratory,
WI	nter, etc.	
Observed	Potential	Species/Habitat/Comments
	Y	Avian
Fie	sh and Agus	atic Life Habitat and Species Observations
		oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
		,
Observed	Potential	Species/Habitat
	Y	Frogs
	Υ	Aquatic invertebrates
	1	

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S47	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Panicum dichotomiflorum			PEM	Abundant
Phalaris arundinacea			PEM	Common
Persicaria hydropiper			PEM	Uncommon
Setaria viridis			PEM	Uncommon
Setaria pumila			PEM	Uncommon
Panicum capillare			PEM	Uncommon
Trifolium repens			PEM	Rare
Echinochloa crus-galli			PEM	Rare

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The wetland is of very low floristic quality due to high invasive cover, low diversity, and impacts from the adjacent hayfield.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor	
					Filling, berms (non-impounding)	
					Drainage – tiles, ditches	
					Hydrologic changes - high capacity wells,	
					impounded water, increased runoff	
X	Х		Н	С	Point source or stormwater discharge	
X	Х		Н	С	Polluted runoff	
					Pond construction	
					Agriculture – row crops	
Х	Х		Н	С	Agriculture – hay	
					Agriculture – pasture	
					Roads or railroad	
					Utility corridor (above or subsurface)	
					Dams, dikes or levees	
					Soil subsidence, loss of soil structure	
					Sediment input	
	Х		М	С	Removal of herbaceous stratum – mowing,	
X					grading, earthworms, etc.	
					Removal of tree or shrub strata – logging,	
					unprescribed fire	
					Human trails – unpaved	
					Human trails – paved	
					Removal of large woody debris	
X	Χ		Н	С	Cover of non-native and/or invasive species	
					Residential land use	
					Urban, commercial or industrial use	
					Parking lot	
					Golf course	
					Gravel pit	
					Recreational use (boating, ATVs, etc.)	
					Excavation or soil grading	
					Other (list below):	

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The wetland is heavily affected by the adjacent/surrounding hayfield.					

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity	√				
Human Use Values	√				
Wildlife Habitat	√				
Fish and Aquatic Life Habitat		√			
Shoreline Protection					1
Flood and Stormwater Storage			√		
Water Quality Protection			√		
Groundwater Processes	√				

FUNCTION	RATIONALE
Floristic Integrity	High invasive cover, low diversity of weedy species
Human Use Values	No uses
Wildlife Habitat	Little to no habitat
Fish and Aquatic Life Habitat	Standing water after rain events
Shoreline Protection	N/A
Flood and Stormwater Storage	Stores stormwater runoff from the hayfield
Water Quality Protection	Polluted runoff filtering, densely vegetated
Groundwater Processes	Groundwater recharge

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/C	ounty: Ashland	Sa	impling Date: <u>2019-10-10</u>
Applicant/Owner: Enbridge				
Investigator(s): JSW/BRG				· -
Landform (hillslope, terrace, etc.): Side slope				
Subregion (LRR or MLRA): Northcentral Forests				
Soil Map Unit Name: Odanah silt loam, 6				
Are climatic / hydrologic conditions on the site typic	-			
Are Vegetation, Soil, or Hydrology				
Are Vegetation, Soil, or Hydrology	naturally problema	atic? (If needed, ex	xplain any answers ir	n Remarks.)
SUMMARY OF FINDINGS - Attach sit	e map showing sam	pling point location	ns, transects, in	nportant features, etc.
Hydrophytic Vegetation Present? Yes	No <u></u> ✓	Is the Sampled Area		
	No <u> </u>	within a Wetland?	Yes	No <u>√</u>
Wetland Hydrology Present? Yes		If yes, optional Wetland	Site ID:	
Remarks: (Explain alternative procedures here of The upland is located in a hay fie		d clover.		
HYDROLOGY Wetland Hydrology Indicators:			Secondary Indicators	s (minimum of two required)
Primary Indicators (minimum of one is required; of	hack all that apply)		-	
	Water-Stained Leave		Drainage Patterr	
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines	
Saturation (A3)	Marl Deposits (B15)	_	Dry-Season Wat	
Water Marks (B1)	Hydrogen Sulfide Od	or (C1)	Crayfish Burrows	
Sediment Deposits (B2)	Oxidized Rhizosphere	es on Living Roots (C3)	Saturation Visibl	e on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced		Stunted or Stres	
Algal Mat or Crust (B4)	Recent Iron Reductio		Geomorphic Pos	
Iron Deposits (B5)	Thin Muck Surface (C		Shallow Aquitard	
	Other (Explain in Ren	narks) _	Microtopographi	
Sparsely Vegetated Concave Surface (B8) Field Observations:		<u> </u>	FAC-Neutral Tes	St (D5)
	✓ Depth (inches):			
	✓ Depth (inches):			
	✓ Depth (inches):	<u> </u>	/drology Present?	Yes No✓
(includes capillary fringe)				
Describe Recorded Data (stream gauge, monitori	ing well, aerial photos, pre	vious inspections), if avail	able:	
Remarks:	1 1			
No indicators of wetland hydrolog	y were observed.			

VEGETATION – Use scientific names of plants.

VEGETATION – Use scientific names of plants				Sampling Point: wasc065_u
Tree Stratum (Plot size:30')	Absolute % Cover		nt Indicator	Dominance Test worksheet:
1				Number of Dominant Species That Are OBL, FACW, or FAC:(A)
2.				Total Number of Dominant
3				Species Across All Strata: 1.0 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 0.0 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0.0	= Total Co	over	OBL species 0.0 x 1 = 0.0
Sapling/Shrub Stratum (Plot size: 15')				FACW species $0.0 x2 = 0.0$ FAC species $10.0 x3 = 30.0$
1				FACU species
2				UPL species 0.0 x 5 = 0.0
3				Column Totals: <u>85.0</u> (A) <u>330.0</u> (B)
4				Prevalence Index = B/A =3.9
5				Hydrophytic Vegetation Indicators:
6.				1 - Rapid Test for Hydrophytic Vegetation
7				2 - Dominance Test is >50%
Hart Charles (Distains E'	0.0	= Total Co	over	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5') 1. Trifolium pratense	75.0	Y_	FACU	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. <u>Triticum aestivum</u>		N	NI_	Problematic Hydrophytic Vegetation¹ (Explain)
3. <u>Setaria pumila</u>	10.0_	_N_	FAC	¹ Indicators of hydric soil and wetland hydrology must
4				be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10.				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in
12	85.0		over	height.
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic
4				Vegetation
	0.0	= Total Co	over	100 <u> </u>
Remarks: (Include photo numbers here or on a separate				
The upland is dominated by red clover.	ı			

SOIL Sampling Point: wasc065_u

Profile Desc	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of indicat	ors.)
Depth	Matrix	0/		x Features		1 2	Tautuma	Remarks
(inches) 0-12	7.5YR 3/3	100	Color (moist)	<u> %</u>	Type'	_Loc ²	SICL	Remarks
12-20		100						
12 20	0111 1/0	100						
				· ——				
		·						
		<u> </u>		· . 				
		<u> </u>						
		·						
		·						
		· ·		· <u></u>				
		<u> </u>						
		·		· . 				
17		lation DM	Dadua ad Matrice MC	- Maaliaa		-:	2l costion, Dl. Dono	Lining M. Matrix
Hydric Soil	oncentration, D=Dep Indicators:	ietion, Rivi=	Reduced Matrix, Ms	5=IVIASKeC	Sand Gr	ains.	² Location: PL=Pore Indicators for Proble	ematic Hydric Soils ³ :
Histosol			Polyvalue Belov		(S8) (LRF	RR,		(LRR K, L, MLRA 149B)
	oipedon (A2) stic (A3)		MLRA 149B) Thin Dark Surfa		.RR R. MI	_RA 149B)		dox (A16) (LRR K, L, R) t or Peat (S3) (LRR K, L, R)
Hydroge	en Sulfide (A4)		Loamy Mucky N	/lineral (F	1) (LRR K		Dark Surface (S7	() (LRR K, L)
	d Layers (A5) d Below Dark Surfac	e (A11)	Loamy Gleyed I Depleted Matrix)		-	Surface (S8) (LRR K, L) e (S9) (LRR K, L)
Thick Da	ark Surface (A12)		Redox Dark Su	rface (F6)			Iron-Manganese	Masses (F12) (LRR K, L, R)
-	Mucky Mineral (S1) Bleyed Matrix (S4)		Depleted Dark S Redox Depress		7)			lain Soils (F19) (MLRA 149B) A6) (MLRA 144A, 145, 149B)
Sandy F	Redox (S5)	•		- (-)			Red Parent Mate	rial (F21)
	l Matrix (S6) rface (S7) (LRR R, I	MLRA 149B)				Very Shallow Date Other (Explain in	rk Surface (TF12) Remarks)
	f hydrophytic vegeta		tland hydrology mus	st be prese	ent, unless	disturbed	or problematic.	
	Layer (if observed)							
Type: Depth (in	ches):						Hydric Soil Present?	Yes No _ ✓
Remarks:								
No indica	ators of hydric	soil we	re observed.					



wasc065_u_S



wasc065_u_W

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	nland	Sampling Date: 2019-09-10
Applicant/Owner: Enbridge			
Investigator(s): BRG/JSW	Section, Township	o, Range: <u>046N-004W</u>	<i>'</i> -07
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.47			
Soil Map Unit Name: Allendale loamy fine sand, 0			
Are climatic / hydrologic conditions on the site typical for this tim			
Are Vegetation, Soil, or Hydrology signi			
Are Vegetation, Soil, or Hydrology nature		(If needed, explain any ansv	
SUMMARY OF FINDINGS – Attach site map sho	wing sampling poi	nt locations, transec	ts, important features, etc.
Hydrophytic Vegetation Present? Yes ✓ No	Is the Sam		, ,
Hydric Soil Present? Yes✓ No		etland? Yes	
Wetland Hydrology Present? Yes ✓ No		onal Wetland Site ID:	
Remarks: (Explain alternative procedures here or in a separa The wetland is a fresh wet meadow in a ro	te report.) padside ditch loc:	ated hetween the r	road and a hay field
The wetland is a fresh wet meadow in a re	•		,
successional species, that will likely give	-	_	-
wetland.	vay to the maian	io aramamacca ame	sady procent in the
World To			
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Ind	licators (minimum of two required)
Primary Indicators (minimum of one is required; check all that	apply)	Surface So	
	Stained Leaves (B9)	Drainage I	
	Fauna (B13)	Moss Trim	
Saturation (A3) Marl De			on Water Table (C2)
	en Sulfide Odor (C1)		Burrows (C8)
Sediment Deposits (B2) Oxidized	d Rhizospheres on Living I	Roots (C3) Saturation	Visible on Aerial Imagery (C9)
Drift Deposits (B3) Presence	ce of Reduced Iron (C4)	Stunted or	r Stressed Plants (D1)
Algal Mat or Crust (B4) Recent	Iron Reduction in Tilled Sc	oils (C6) Geomorph	nic Position (D2)
	ick Surface (C7)	Shallow A	
	Explain in Remarks)		graphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-Neut	ral Test (D5)
Field Observations:	(inches):		
Surface Water Present? Yes No _ ✓ Depth (Water Table Present? Yes No _ ✓ Depth (
Saturation Present? Yes No _ ✓ Depth (· / —	Wetland Hydrology Pres	sent? Yes <u>√</u> No
(includes capillary fringe)			Sent: 165 v NO
Describe Recorded Data (stream gauge, monitoring well, aeria	al photos, previous inspect	tions), if available:	
Remarks:			
The hydrologic regime is saturated, with re	0 , 0	-	•
runs into the wetland. The wetland discha	rges some water	into stream sasc0	04i via an ephemeral
drainage (sasc005e).			

VEGETATION – Use scientific names of plants.

	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)		Species?		Number of Dominant Species
1				That Are OBL, FACW, or FAC:1.0 (A)
2				Total Number of Dominant
3			·	Species Across All Strata:1.0 (B)
4				Percent of Dominant Species
5			·	That Are OBL, FACW, or FAC:100.0 (A/B)
6			·	Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0.0	= Total Co	ver	OBL species <u>55.0</u> x 1 = <u>55.0</u>
Sapling/Shrub Stratum (Plot size:)				FACW species 20.0 x 2 = 40.0
1				FAC species 1.0 x 3 = 3.0
2				FACU species <u>22.0</u> x 4 = <u>88.0</u> UPL species <u>1.0</u> x 5 = <u>5.0</u>
3				Column Totals: 99.0 (A) 191.0 (B)
4.				Column Totals. <u>99.0</u> (A) <u>191.0</u> (B)
5				Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
7				
	0.0	= Total Co	ver	∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size:)				3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting
1. <u>Carex vulpinoidea</u>	50.0	Y	OBL	data in Remarks or on a separate sheet)
2. Phalaris arundinacea	15.0	N	<u>FACW</u>	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Lotus corniculatus	10.0	N	<u>FACU</u>	The street are of the state and the street has the street are street.
4. <u>Juncus effusus</u>	_5.0_	N	OBL	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. Symphyotrichum lanceolatum	5.0	N	<u>FACW</u>	Definitions of Vegetation Strata:
6. Phleum pratense	5.0	N	<u>FACU</u>	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7. <u>Poa pratensis</u>	5.0	N	<u>FACU</u>	at breast height (DBH), regardless of height.
8. <u>Cichorium intybus</u>	2.0	N	<u>FACU</u>	Sapling/shrub – Woody plants less than 3 in. DBH
9. <u>Equisetum arvense</u>	1.0	N	FAC	and greater than or equal to 3.28 ft (1 m) tall.
10. Daucus carota	1.0	N	<u>UPL</u>	Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	99.0	= Total Co	ver	height.
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic
4				Vegetation Present? Yes No
	0.0	= Total Co	ver	100
Remarks: (Include photo numbers here or on a separate s	sheet.)	d and fo	o ultotiv	o aposico
The wetland is filled with advantageous	wellan	u anu i	acuitativ	e species.

Sampling Point: wasc004e_w

SOIL Sampling Point: wasc004e_w

Profile Description: (De	scribe to the de				or confirm	the absence of inc	dicators.)
	latrix		x Features		1 - 2	Tandam	Description
(inches) Color (m	oist)	Color (moist)	%	Type'	Loc ²	Texture	Remarks
¹Type: C=Concentration,	D-Depletion RM	1-Reduced Matrix MS	S-Masked	Sand Gra	nine	² l ocation: Pl –	Pore Lining, M=Matrix.
Hydric Soil Indicators:	D-Depiction, KIV	i–rveduced Matrix, Mi	-ivia5KEU	Janu Gla	. OI 111		roblematic Hydric Soils ³ :
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4 Stratified Layers (A5) Depleted Below Dark Thick Dark Surface (A2) Sandy Mucky Mineral Sandy Gleyed Matrix Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LI	Surface (A11) A12) (S1) (S4) RR R, MLRA 149		ice (S9) (L flineral (F1 Matrix (F2) (F3) fface (F6) Surface (F ions (F8)	RR R, MI) (LRR K 7)	.RA 149B) , L)	Coast Prairie 5 cm Mucky Dark Surface Polyvalue Be Thin Dark St Iron-Mangan Piedmont Fle Mesic Spodi Red Parent I Very Shallov	A10) (LRR K, L, MLRA 149B) Pe Redox (A16) (LRR K, L, R) Peat or Peat (S3) (LRR K, L, R) Pe (S7) (LRR K, L) Pelow Surface (S8) (LRR K, L) Perform (S9) (LRR K, L) Pese Masses (F12) (LRR K, L, R) Peodplain Soils (F19) (MLRA 149B) Perform (TA6) (MLRA 144A, 145, 149B) Material (F21) Perform (TF12) Perform (S10) (F12) Perform (S10) (F13) (F13) Perform (S10) (F13) (F13) Perform (F13) (F13) (F13) Perform (F13) (F13) (F13) Perform (F13) (F13) (F13) (F13) (F13) Perform (F13) (F13
Restrictive Layer (if obs							
Type: Depth (inches):						Hydric Soil Prese	ent? Yes <u>√</u> No
Remarks: Soils could not be Soils assumed to							thin the roadside ditch.



wasc004e_w_N



wasc004e_w_S

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project	Evaluator(s): BRG/JSW		
File #: wasc004	Date of visit(s): 09/10/2019		
Location: PLSS: 046N-004W-07	Ecological Landsca Superior Coastal Plain	ape:	
Lat: <u>46.478735</u> Long: <u>-90.907342</u>	Watershed: LS10, White River		
County: Ashland Town/City/Village: White River town			
SITE DESCRIPTION			
Soils: Mapped Type(s):	WWI Class: N/A		
226A, 280F, Allendale loamy fine sand, 0 to 3 percent slopes, Odanah silt loam, 25 to 60 percent slopes	Wetland Type(s): PEM - fresh wet	meadow	
Field Verified:			
Soils were not sampled due to the likely proximity of underground utilities.	Wetland Size: 0.05	Wetland Area Impacted 0.05	
	Vegetation: Plant Community D	Description(s):	
Hydrology: The hydrologic regime is saturated, with recharge hydrology. The wetland accumulates runoff precipitation from the adjacent paved road.	Fresh wet meadow dominated by Carex vulpinoidea and filled with weedy roadside wetland species.		

 SITE MAP

SECTION 1: Functional Value Assessment

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Ν	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
	- ' '	- 11	In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	- 11	111	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3			Within or adjacent to habitat corridor or established wildlife habitat area
4	N	N	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
	N	N	
5	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	N	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present > 45 days
10	N	N	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	N	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Y	Vegetation is inundated in spring
SP			Shoreline Protection
1	NA	NA	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	NA	NA	water levels or high flows – if no, not applicable
3	NA	NA	Densely rooted emergent or woody vegetation
ST	14/ (147	Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	N	N	Water flow through wetland is NOT channelized
3	Y	Y	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	Y	Y	Point or non-point source inflow
6			Impervious surfaces cover >10% of land surface within the watershed
	N	N	
7	N	N	Within a watershed with ≤10% wetland Petantial to hold > 10% of the runoff from contributing area from a 2 year 24 hour storm event.
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ		ĺ	Water Quality Protection
1	17	17	Dravidas substantial storage of storm and floodwater based as assuitant asstica
	Y	Y	Provides substantial storage of storm and floodwater based on previous section
2	N	Υ	Basin wetland or constricted outlet
3	N N	Y N	Basin wetland or constricted outlet Water flow through wetland is NOT channelized
3 4	N N N	Y N N	Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream
3 4 5	N N N Y	Y N N Y	Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation
3 4 5 6	N N N Y	Y N N Y	Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
3 4 5 6 7	N N N Y N	Y N N Y N	Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source
3 4 5 6 7 8	N N N Y	Y N N Y	Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water
3 4 5 6 7	N N N Y N	Y N N Y N	Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50%
3 4 5 6 7 8	N N N Y N N	Y N N Y N N	Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water
3 4 5 6 7 8 9	N N N Y N N N	Y N N Y N N N N N N N N N N N N N N N N	Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes
3 4 5 6 7 8 9 GW	N N N Y N N N	Y N N Y N N Y N N N N Y	Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present
3 4 5 6 7 8 9 GW 1 2	N N N Y N N N N	Y N N Y N N N N N N N N N N N	Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland
3 4 5 6 7 8 9 GW 1 2 3	N N N Y N N N N	Y N N Y N N N N N N N N N N N N N N N N	Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland Wetland remains saturated for an extended time period with no additional water inputs
3 4 5 6 7 8 9 GW 1 2	N N N Y N N N N	Y N N Y N N N N N N N N N N N	Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland

Wi	Idlife Habita	at and Species Observation (including amphibians and reptiles)
Lis	st: direct ok nter, etc.	oservation, tracks, scat, other sign; type of habitat: nesting, migratory,
		Consider Mark Hotel Community
bserved	Potential Y	Species/Habitat/Comments songbirds. amphibians
F:	ah and Agus	atic Life Habitat and Species Observations
		oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
bserved	Potential	Species/Habitat
5001 Y 0 G	Totoritian	- Openios/Hubitut

Section 1 Comments (Refer to Section 1 numbers)

HU-3: roadside location ST-1: wetland is located in a linear roadside ditch ST-5: runoff from adjacent paved road

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4 /	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional) Mean C (optional)	<13<2.4	13-23 2.4-4.2	23-32 4.3-4.7	>32

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Carex vulpinoidea			PEM	Common
Phalaris arundinacea			PEM	Common
Lotus corniculatus			PEM	Uncommon
Juncus effusus			PEM	Uncommon
Symphyotrichum lanceolatum			PEM	Uncommon
Phleum pratense			PEM	Uncommon
Poa pratensis			PEM	Uncommon
Cichorium intybus			PEM	Uncommon
Equisetum arvense			PEM	Uncommon
Daucus carota			PEM	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The wetland is a fresh wet meadow even due to sedge dominance, because the Carex vulpinoidea will secede to perennial invasives such as Phalaris arundinacea, which is already present throughout the wetland.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
,					Filling, berms (non-impounding)
Х					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
			Н	С	Point source or stormwater discharge
					Polluted runoff
					Pond construction
	Х		L	U	Agriculture – row crops
	Х		L	С	Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
			B.4	0	Removal of herbaceous stratum – mowing,
	X		M	С	grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
X	Х		Н	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The wetland is disturbed by human activity, and was likely created in the past by the construction of the paved road
is adjacent to. Invasives and runoff due to the wetland's location are significant wetland stressors.

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity	√				
Human Use Values	√				
Wildlife Habitat	√				
Fish and Aquatic Life Habitat					√
Shoreline Protection					√
Flood and Stormwater Storage		/			
Water Quality Protection		✓			
Groundwater Processes	√				

FUNCTION	RATIONALE
Floristic Integrity	Abundance of invasive and common weedy species
Human Use Values	No quality uses
Wildlife Habitat	None
Fish and Aquatic Life Habitat	Insufficient standing water
Shoreline Protection	N/A
Flood and Stormwater Storage	Dense vegetation stores some runoff water
Water Quality Protection	See above
Groundwater Processes	Nothing aside from groundwater recharge

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	n <mark>land</mark> s	ampling Date: 2019-09-10		
Applicant/Owner: Enbridge		State: WI	Sampling Point: wasc004_u		
Investigator(s): BRG/JSW	Section, Township	, Range: <u>046N-004W-07</u>			
Landform (hillslope, terrace, etc.): Crest					
Subregion (LRR or MLRA): Northcentral Forests Lat: 46					
Soil Map Unit Name: Allendale loamy fine sand					
Are climatic / hydrologic conditions on the site typical for this	•				
Are Vegetation, Soil, or Hydrology s					
Are Vegetation, Soil, or Hydrology n					
SUMMARY OF FINDINGS – Attach site map	snowing sampling poli	nt locations, transects, ii	mportant reatures, etc.		
Hydrophytic Vegetation Present? Yes N	o Is the Sam				
Hydric Soil Present? Yes N		etland? Yes	No <u>√</u>		
Wetland Hydrology Present? Yes N Remarks: (Explain alternative procedures here or in a sep		nal Wetland Site ID:			
The upland is located next to a hay field roadside species.	ત્રે, and consists of a ા	mix of hay field specie	es and weedy		
HYDROLOGY Wetland Hydrology Indicators:		Secondary Indicator	rs (minimum of two required)		
Primary Indicators (minimum of one is required; check all t	hat annly)	<u> </u>			
	er-Stained Leaves (B9)	Drainage Patter			
	atic Fauna (B13)	Moss Trim Line			
	Deposits (B15)	Dry-Season Wa			
	rogen Sulfide Odor (C1)	Crayfish Burrow			
	lized Rhizospheres on Living F	Roots (C3) Saturation Visib	ole on Aerial Imagery (C9)		
Drift Deposits (B3) Pres	sence of Reduced Iron (C4)	Stunted or Stres	ssed Plants (D1)		
Algal Mat or Crust (B4) Rec	ent Iron Reduction in Tilled So				
Iron Deposits (B5) Thin	Muck Surface (C7)	Shallow Aquitard (D3)			
Inundation Visible on Aerial Imagery (B7) Other	er (Explain in Remarks)	Microtopographic Relief (D4)			
Sparsely Vegetated Concave Surface (B8)		FAC-Neutral Te	est (D5)		
Field Observations:					
	oth (inches):				
	oth (inches):		., .		
Saturation Present? Yes No _✓ Dep (includes capillary fringe)	oth (inches):	Wetland Hydrology Present?	Yes No <u>√</u>		
Describe Recorded Data (stream gauge, monitoring well, a	aerial photos, previous inspect	ions), if available:			
Remarks:					
No indicators of wetland hydrology were	e observed.				
,					

VEGETATION – Use scientific names of plants.

/EGETATION – Use scientific names of plants.				Sampling Point: wasc004_u
Tree Stratum (Plot size: 30')	Absolute % Cover		t Indicator	Dominance Test worksheet:
1				Number of Dominant Species That Are OBL, FACW, or FAC:(A)
2				Total Number of Dominant
3				Species Across All Strata: 2.0 (B) Percent of Dominant Species
5.				That Are OBL, FACW, or FAC: 0.0 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0.0	= Total Co	over	OBL species x 1 =0.0
Sapling/Shrub Stratum (Plot size: 15')				FACW species x 2 =0.0
1				FAC species <u>0.0</u> x 3 = <u>0.0</u>
2				FACU species <u>84.0</u> x 4 = <u>336.0</u>
3.				UPL species 12.0 x 5 = 60.0
4				Column Totals: <u>96.0</u> (A) <u>396.0</u> (B)
5				Prevalence Index = B/A =4_1
				Hydrophytic Vegetation Indicators:
6.				1 - Rapid Test for Hydrophytic Vegetation
7				2 - Dominance Test is >50%
	0.0	= Total Co	over	3 - Prevalence Index is ≤3.0 ¹
Herb Stratum (Plot size: 5') 1. Poa pratensis	40.0	V	FACU	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
 Poa pratensis Solidago altissima 			FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
•				robbinatio riyarophytic vegetation (Explain)
3. <u>Daucus carota</u>		_N_	UPL	¹ Indicators of hydric soil and wetland hydrology must
4. Phleum pratense		_N_	FACU	be present, unless disturbed or problematic.
5. <u>Cichorium intybus</u>		<u>N</u>	<u>FACU</u>	Definitions of Vegetation Strata:
6. <u>Galium mollugo</u>		N	<u>FACU</u>	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7. <u>Symphyotrichum lateriflora</u>		N	<u>FACU</u>	at breast height (DBH), regardless of height.
8. <u>Asclepias syriaca</u>	2.0	N	<u>UPL</u>	Sapling/shrub – Woody plants less than 3 in. DBH
9. <u>Cirsium arvense</u>	2.0	N	<u>FACU</u>	and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11		-	-	
12				Woody vines – All woody vines greater than 3.28 ft in height.
	96.0	= Total Co	over	
Woody Vine Stratum (Plot size: 30')				
1				
2				
3				Hydrophytic
4				Vegetation Present?
	0.0	= Total Co	over	
Remarks: (Include photo numbers here or on a separate see The upland is dominated by weedy spe				

SOIL Sampling Point: wasc004_u

Profile Description: (Describe to t			ator or confirm	the absence of ind	icators.)
Depth Matrix		edox Features	1 , 2	- .	5
(inches) Color (moist)	% Color (moist)		pe ¹ Loc ²	Texture	Remarks
¹ Type: C. Concentration D. Depleti	on DM Dadward Matrix	r MC Masked Cor	d Crains	21 continue DL I	Dara Lining M. Matrix
¹ Type: C=Concentration, D=Depletion Hydric Soil Indicators:	on, rivi=reduced iviatrix	., IVIO=IVIASKED SAP	u Giains.		Pore Lining, M=Matrix. oblematic Hydric Soils³:
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A2) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLF	MLRA 14 Thin Dark S Loamy Muc Loamy Gley A11) — Depleted M Redox Dark Depleted D Redox Dep	Surface (S9) (LRR cky Mineral (F1) (Ll yed Matrix (F2) atrix (F3) s Surface (F6) ark Surface (F7) ressions (F8)	R, MLRA 149B) RR K, L)	2 cm Muck (A Coast Prairie 5 cm Mucky I Dark Surface Polyvalue Be Thin Dark Su Iron-Mangane Piedmont Flo Mesic Spodic Red Parent M Very Shallow Other (Explai	A10) (LRR K, L, MLRA 149B) Redox (A16) (LRR K, L, R) Peat or Peat (S3) (LRR K, L, R) (S7) (LRR K, L) low Surface (S8) (LRR K, L) rface (S9) (LRR K, L) ese Masses (F12) (LRR K, L, R) odplain Soils (F19) (MLRA 149B) c (TA6) (MLRA 144A, 145, 149B)
Restrictive Layer (if observed):					
Type:				Hydric Soil Prese	nt? Yes No <u>√</u>
Remarks: The soils were not samp are assumed to be non-h					ed utilities. The soils



wasc004_u_N



wasc004_u_S

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: A	shland	Samplinç	Date: <u>2019-09-1</u> 1		
Applicant/Owner: Enbridge						
Investigator(s): SAM/JSW				=		
Landform (hillslope, terrace, etc.): Depression						
Subregion (LRR or MLRA): Northcentral Forests Lat:						
Soil Map Unit Name: Kellogg-Allendale-Ashwa						
		•				
Are climatic / hydrologic conditions on the site typical for				V / N-		
Are Vegetation, Soil, or Hydrology						
Are Vegetation, Soil, or Hydrology	_ naturally problematic?	(If needed, explain	any answers in Rema	arks.)		
SUMMARY OF FINDINGS – Attach site ma	p showing sampling p	oint locations, t	ransects, import	ant features, etc.		
Hydrophytic Vegetation Present? Yes✓	No Is the S	ampled Area				
Hydric Soil Present? Yes ✓	and the land	ı Wetland?	Yes			
Wetland Hydrology Present? Yes✓		ptional Wetland Site I	D:			
Remarks: (Explain alternative procedures here or in a	separate report.)					
Roadside ditch feature dominated by	graminolas. Adjace	nt to a county	nignway.			
HYDROLOGY						
Wetland Hydrology Indicators:		Seco	ndary Indicators (minir	mum of two required)		
Primary Indicators (minimum of one is required; check	all that apply)		Surface Soil Cracks (B	6)		
	Vater-Stained Leaves (B9)	[Orainage Patterns (B10	0)		
	Aquatic Fauna (B13)	/\	Moss Trim Lines (B16)			
	Marl Deposits (B15)		Dry-Season Water Tab	ole (C2)		
	Hydrogen Sulfide Odor (C1)		Crayfish Burrows (C8)			
	Oxidized Rhizospheres on Livir	• • • —	Saturation Visible on A	• • • •		
	Presence of Reduced Iron (C4)		Stunted or Stressed Pla			
	Recent Iron Reduction in Tilled					
	Thin Muck Surface (C7)		Shallow Aquitard (D3)			
Inundation Visible on Aerial Imagery (B7) C Sparsely Vegetated Concave Surface (B8)	Other (Explain in Remarks)		Microtopographic Relie FAC-Neutral Test (D5)			
Field Observations:			AC-Neutral Test (D5)			
	Depth (inches): 4					
	Depth (inches):					
	Depth (inches): 0		logy Present? Yes	√ No		
(includes capillary fringe)		_				
Describe Recorded Data (stream gauge, monitoring we	II, aerial photos, previous insp	pections), if available:				
Remarks:						
Saturation assumed due to the prese		Likely not inur	ndated during n	nost of the		
growing season with just seasonal sa	ituration.					

VEGETATION – Use scientific names of plants.

Tree Stratum (Blot size: 20!	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30')	% Cover Species? Status	Number of Dominant Species
1		That Are OBL, FACW, or FAC:1.0 (A)
2		Total Number of Dominant Species Across All Strata: 1.0 (B)
3		Species Across All Strata:(B)
4		Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)
5		That Are OBL, FACW, or FAC:(A/B)
6		Prevalence Index worksheet:
7		Total % Cover of: Multiply by:
		OBL species x 1 =0.0
Sapling/Shrub Stratum (Plot size:)		FACW species 100.0 x 2 = 200.0
1		FAC species 2.0 x 3 = 6.0
2		FACU species x 4 = UPL species x 5 = 0.0
3		Column Totals: 102.0 (A) 206.0 (B)
4		
5		Prevalence Index = B/A =
6.		Hydrophytic Vegetation Indicators:
7		1 - Rapid Test for Hydrophytic Vegetation
	0.0 = Total Cover	∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size:5')		3 - Prevalence Index is ≤3.0¹
1. Phalaris arundinacea	100.0 Y FACW	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Equisetum arvense		Problematic Hydrophytic Vegetation ¹ (Explain)
3.		
4.		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5		
		Definitions of Vegetation Strata:
6		Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8.		
9.		Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10		Herb – All herbaceous (non-woody) plants, regardless
11		of size, and woody plants less than 3.28 ft tall.
12.	- — — — — — — — — — — — — — — — — — — —	Woody vines – All woody vines greater than 3.28 ft in
12.	102.0 = Total Cover	height.
Woody Vine Stratum (Plot size:)	102.0 = 10tal Covel	
1		
2		
3		Hydrophytic Vegetation
4		Present? Yes No
	= Total Cover	
Remarks: (Include photo numbers here or on a separate s Entirely dominated by reed canary grass		
Entirely dominated by reed danaly grace		

Sampling Point: wasc005e_w

SOIL Sampling Point: wasc005e_w

_	tion: (Describe to	the depth				or confirm	the absence of inc	dicators.)
Depth	Matrix			x Features		. 2		
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
¹ Type: C=Conce	entration, D=Deple	tion, RM=R	educed Matrix, MS	S=Masked	Sand Gra	ains.		Pore Lining, M=Matrix. roblematic Hydric Soils ³ :
Histosol (A1 Histic Epipe Black Histic Hydrogen S Stratified La Depleted Be Thick Dark S Sandy Much Sandy Gley Sandy Redo Stripped Ma Dark Surfac	don (A2) (A3) ulfide (A4) yers (A5) elow Dark Surface Surface (A12) ky Mineral (S1) ed Matrix (S4) ox (S5)	 	Polyvalue Below MLRA 149B) Thin Dark Surfa Loamy Mucky M Loamy Gleyed I Depleted Matrix Redox Dark Sur Depleted Dark S Redox Depress	ce (S9) (L flineral (F1 Matrix (F2 (F3) fface (F6) Surface (F ions (F8)	.RR R, MI) (LRR K) 7)	.RA 149B) L)	2 cm Muck (Coast Prairie 5 cm Mucky Dark Surface Polyvalue Be Thin Dark St Iron-Mangar Piedmont Fle Mesic Spodi Red Parent I Very Shallov Other (Explain or problematic.	A10) (LRR K, L, MLRA 149B) e Redox (A16) (LRR K, L, R) Peat or Peat (S3) (LRR K, L, R) e (S7) (LRR K, L) elow Surface (S8) (LRR K, L) urface (S9) (LRR K, L) nese Masses (F12) (LRR K, L, R) podplain Soils (F19) (MLRA 149B) c (TA6) (MLRA 144A, 145, 149B) Material (F21) v Dark Surface (TF12) tin in Remarks)
	s):						Hydric Soil Prese	ent? Yes <u>√</u> No
	valuated due and vegeta		otential for b	ouried	utilities	s. Soils	assumed hyd	Iric based on



wasc005e_w_N



wasc005e_w_S

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name:	Evaluator(s):		
Line 5 Relocation Project File #: wasc005 Location: PLSS: 046N-004W-07	Date of visit(s): 09/11/2019 Ecological Landsca Superior Coastal Plain	ape:	
Lat: 46.474777 Long: -90.907401 County: Ashland Town/City/Village: White River town	Watershed: LS10, White River		
SITE DESCRIPTION			
Soils: Mapped Type(s): 713B Kellogg-Allendale-Ashwabay complex	WWI Class: N/A Wetland Type(s):		
Field Verified:	PEM - fresh wet	meadow	
Series not verified. Soils could not be sampled due to the potential of buried roadside utilities.	Wetland Size: 0.01	Wetland Area Impacted 0.01	
Hydrology: The hydrologic regime is saturated, with recharge hydrology. The feature is a roadside ditch that receives runoff from the adjacent paved road.		Description(s): ow dominated by weedy s (predominantly Phalaris	

SITE MAP		

SECTION 1: Functional Value Assessment

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Ν	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
		.,	In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	- 11	1,4	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N	N	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5		N N	Occurs in a Joint Venture priority township
6	N		Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
0	N	N	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
7	N	N	
			plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present > 45 days
10	N	N	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	Ν	N	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	N	N	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	N	N	water levels or high flows – if no, not applicable
3	N	N	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	N	N	Water flow through wetland is NOT channelized
3	Y	Y	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	Y	Y	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with <10% wetland
8	N	N N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ	IN	IN	Water Quality Protection
1	N.I	\/	Provides substantial storage of storm and floodwater based on previous section
	N	Y	Basin wetland or constricted outlet
2	Y	Y	Water flow through wetland is NOT channelized
3	N	N	
4	N	N	Vegetated wetland associated with a lake or stream
5	Y	Y	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	Y	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	Υ	Y	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area
	I N	1 N	Trouble to them a followed protocolor area

Section 1 Comments (Refer to Section 1 numbers) HU-4: the wetland is a roadside ditch dominated by invasive species, which provides no aesthetic value WH-7: insufficient preferred vegetation for wetland bird nesting, and the heavy traffic on the adjacent paved road makes the area undesirable for birds WI-7: Insulate preferred vegetation for wettand bird resulting, and the leavy trains of the adjacer ST-5: the wetland receives non-point stormwater runoff from the paved road and adjacent hay field WQ-1: the wetland functions well to store stormwater, but is of a small size Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc.

Observed	Potential	Species/Habitat

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%√	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4 /	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Abundance)
Phalaris arundinacea			PEM	Abundant
Equisetum arvense			PEM	Uncommon
-				
-				

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The wetland is completely dominated by Phalaris arundinacea.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
•					Filling, berms (non-impounding)
Х	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
	Х		Н	С	Point source or stormwater discharge
	Х		M	С	Polluted runoff
					Pond construction
					Agriculture – row crops
	Х		L	С	Agriculture – hay
					Agriculture – pasture
	Х		Н	С	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
V				0	Removal of herbaceous stratum – mowing,
X	X		Н	С	grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
Χ	Х		Н	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The wetland is heavily impacted by a number of stressors, and is of low quality.

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity	√				
Human Use Values	√				
Wildlife Habitat	√				
Fish and Aquatic Life Habitat	√				
Shoreline Protection					1
Flood and Stormwater Storage		/			
Water Quality Protection		√			
Groundwater Processes	√				

FUNCTION	RATIONALE
Floristic Integrity	Invasive species dominance
Human Use Values	No discernible uses
Wildlife Habitat	No quality habitats
Fish and Aquatic Life Habitat	Insufficient duration of standing water
Shoreline Protection	
Flood and Stormwater Storage	Stores storm water after rain events
Water Quality Protection	Stores some runoff from the adjacent road, but is of a small size
Groundwater Processes	No processes aside from recharge hydrology

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	nland	Sampling Date: <u>2019-09-11</u>
Applicant/Owner: Enbridge			
Investigator(s): SAM/JSW			
Landform (hillslope, terrace, etc.): Rise			
Subregion (LRR or MLRA): Northcentral Forests Lat:			
Soil Map Unit Name: Kellogg-Allendale-Ashwa			
Are climatic / hydrologic conditions on the site typical for			
Are Vegetation, Soil, or Hydrology			
Are Vegetation, Soil, or Hydrology			
SUMMARY OF FINDINGS – Attach site ma			
	1	<u>`</u>	Important reatures, etc.
	No Is the Sam		No <u>√</u>
	_ INO <u></u>		
Wetland Hydrology Present? Yes Remarks: (Explain alternative procedures here or in a		onal Wetland Site ID:	
Roadside area. Particular area include	des spoils from the ass	ociated ditch feature.	. This upland point is
shared with wetland feature wasc006			' '
LIVEROL COV			
HYDROLOGY Westernd Hydrology Indicators:		Coordon, Indiant	(ini of two required)
Wetland Hydrology Indicators:	0 d (1, A	•	ors (minimum of two required)
Primary Indicators (minimum of one is required; check			
	Water-Stained Leaves (B9)	Drainage Patte	
	Aquatic Fauna (B13)	Moss Trim Line	
	Marl Deposits (B15) Hydrogen Sulfide Odor (C1)		/ater Table (C2)
	Oxidized Rhizospheres on Living		ible on Aerial Imagery (C9)
	Oxidized Knizospheres on Living Presence of Reduced Iron (C4)		=
	Recent Iron Reduction in Tilled Sc	Stunted or Street Stree	
	Thin Muck Surface (C7)	Shallow Aquita	
	Other (Explain in Remarks)	Shallow Aquita	
Sparsely Vegetated Concave Surface (B8)	Other (Explain in Nemarks)	Microtopograp	
Field Observations:		FAC-Neutiai i	est (D5)
	Depth (inches):		
	Depth (inches):		
	Depth (inches):	Wetland Hydrology Present	? Yes No <u>√</u>
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring w	ell, aerial photos, previous inspec	tions), if available:	
Remarks:			
No primary or secondary indicators of	of hydrology observed.		

VEGETATION – Use scientific names of plants.

	Absolute	Dominan	t Indicator	Dominance Test worksheet:	
Tree Stratum (Plot size: 30')		Species?	<u>Status</u>	Number of Dominant Species	
1				That Are OBL, FACW, or FAC:(A)	
2			·	Total Number of Dominant	
3			-	Species Across All Strata: 3.0 (B)	
4				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 66.666666666666 (A/B)	
6				Prevalence Index worksheet:	
7				Total % Cover of: Multiply by:	
	0.0	= Total Co	ver	OBL species x 1 =0.0	
Sapling/Shrub Stratum (Plot size:)				FACW species20.0 x 2 =40.0	
1				FAC species10.0 x 3 =30.0	
2.				FACU species x 4 =	
3.				UPL species <u>12.0</u> x 5 = <u>60.0</u>	
4				Column Totals: <u>112.0</u> (A) <u>410.0</u> (B)	
5				Prevalence Index = B/A =3.7	
6.				Hydrophytic Vegetation Indicators:	
7				1 - Rapid Test for Hydrophytic Vegetation	
	= Total Cover		ver	2 - Dominance Test is >50%	
Herb Stratum (Plot size:5')				3 - Prevalence Index is ≤3.0¹	
1. Lotus corniculatus	50.0	Υ	FACU	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
2. Agrostis gigantea		Υ	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)	
3. Phalaris arundinacea		Y	FACW		
4. Populus tremuloides		N	FAC	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
5. Poa pratensis	5.0	N	FACU		
6. Rubus idaeus		N	FAC	Definitions of Vegetation Strata:	
7. <u>Crataegus sp.</u>		N	NI	Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
8. <u>Phleum pratense</u>		N	FACU	Sapling/shrub – Woody plants less than 3 in. DBH	
9. Cichorium intybus	F 0	N	FACU	and greater than or equal to 3.28 ft (1 m) tall.	
10. <u>Agrimonia striata</u>	5.0	N	FACU	Herb – All herbaceous (non-woody) plants, regardless	
11. <u>Daucus carota</u>	5.0	N	UPL	of size, and woody plants less than 3.28 ft tall.	
12. <u>Hieracium umbellata</u>	2.0	N	NI	Woody vines – All woody vines greater than 3.28 ft in	
	112.0	= Total Co	ver	height.	
Woody Vine Stratum (Plot size:)					
1					
2					
3				Hydrophytic	
4				Vegetation	
		= Total Co	ver	Present? Yes No	
Remarks: (Include photo numbers here or on a separate					
Upland area dominated by typical erosi	ion cont	rol spec	cies and	other ruderal species.	

Sampling Point: wasc005_u

SOIL Sampling Point: wasc005_u

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth Matrix			Features		1 2	Total	Deved
(inches) Color (moist)	% Cold	or (moist)		Type ¹	Loc ²	Texture	Remarks
¹ Type: C=Concentration, D=Deplet	on, RM=Reduc	ed Matrix, MS	=Masked	Sand Gra	ins.		PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, ML) **Indicators of hydrophytic vegetation* Restrictive Layer (if observed): Type:	Th Lo Lo A11) De Re De Re Re RA 149B)	lyvalue Below MLRA 149B) in Dark Surface amy Mucky M amy Gleyed M amy Gleyed M arrix dox Dark Surf pleted Dark S dox Depression	ce (S9) (L lineral (F1 Matrix (F2) (F3) face (F6) Surface (F ons (F8)	RR R, ML) (LRR K,	.RA 149B) L)	2 cm Muc Coast Pr 5 cm Muc Dark Sur Polyvalue Thin Darl Iron-Man Piedmon Mesic Sp Red Pare Very Sha Other (Ex	or Problematic Hydric Soils ³ : ck (A10) (LRR K, L, MLRA 149B) airie Redox (A16) (LRR K, L, R) cky Peat or Peat (S3) (LRR K, L, R) face (S7) (LRR K, L) e Below Surface (S8) (LRR K, L) k Surface (S9) (LRR K, L) eganese Masses (F12) (LRR K, L, R) t Floodplain Soils (F19) (MLRA 149B) bodic (TA6) (MLRA 144A, 145, 149B) ent Material (F21) allow Dark Surface (TF12) explain in Remarks)
Remarks: Soils not evaluated due to the potential for buried utilities. Soils are assumed non-hydric based on topography and dominant vegetation.							



wasc005_u_S



wasc005_u_W

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/Co	ounty: Ashland		Sampling Date: 2019-09-11
Applicant/Owner: Enbridge				
Investigator(s): SAM/JSW				· -
Landform (hillslope, terrace, etc.): Depression				
Subregion (LRR or MLRA): Northcentral Forests La				
Soil Map Unit Name: Kellogg-Allendale-Ash				
Are climatic / hydrologic conditions on the site typical				
Are Vegetation, Soil, or Hydrology				
Are Vegetation, Soil, or Hydrology	naturally problemat	tic? (If needed, e	explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS - Attach site	map showing sam	pling point locatio	ns, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes <u>✓</u>	No	Is the Sampled Area		
	No	within a Wetland?	Yes <u>√</u>	No
Wetland Hydrology Present? Yes ✓		If yes, optional Wetland	Site ID:	
Remarks: (Explain alternative procedures here or in	n a separate report.)		·	
Roadside ditch feature associated	with a county hig	jhway.		
HYDROLOGY Wetland Hydrology Indicators:			Socondary Indica	ators (minimum of two required)
Primary Indicators (minimum of one is required; che	ack all that apply)			
			Surface Soil Drainage Par	
	Water-Stained LeavesAquatic Fauna (B13)	(69)	Moss Trim Li	
	Marl Deposits (B15)			Water Table (C2)
	_ Hydrogen Sulfide Odo	r (C1)	Crayfish Burn	
	_ Oxidized Rhizosphere			sible on Aerial Imagery (C9)
	Presence of Reduced			tressed Plants (D1)
	Recent Iron Reduction		Geomorphic	
Iron Deposits (B5)	_ Thin Muck Surface (C	7)	Shallow Aqui	itard (D3)
Inundation Visible on Aerial Imagery (B7)	_ Other (Explain in Rem	arks)	Microtopogra	aphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)			✓ FAC-Neutral	Test (D5)
Field Observations:				
	Depth (inches):			
	Depth (inches):			
	Depth (inches):	Wetland H	lydrology Presen	nt? Yes <u>√</u> No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring	well, aerial photos, prev	ious inspections), if ava	ilable:	
	y - , ,	.,,		
Remarks:	drologically con	nacted to footure	. wasc005o	Saccopally caturated
No surface water observed. Not hy	drologically coril	lected to leature	wascoose.	Seasonally saturated
with recharge hydrology.				
Ĭ				

VEGETATION – Use scientific names of plants.

EGETATION – Use scientific names of plants		Sampling Point: wasc006e_w
Tree Stratum (Plot size: 30')	Absolute Dominant Indicator % Cover Species? Status	Dominance Test worksheet:
1		Number of Dominant Species That Are OBL, FACW, or FAC:1.0 (A)
2		Total Number of Dominant
3		Species Across All Strata:(B)
4		Percent of Dominant Species
5		That Are OBL, FACW, or FAC: 100.0 (A/B)
6.		Prevalence Index worksheet:
7		
	0.0 = Total Cover	OBL species x 1 =
Sapling/Shrub Stratum (Plot size:)		FACW species 100.0 x 2 = 200.0
1		FAC species x 3 =0.0
2.		FACU species0.0 x 4 =0.0
3.		UPL species <u>0.0</u> x 5 = <u>0.0</u>
4		Column Totals:(A)(B)
5.		Prevalence Index = B/A =
6.		Hydrophytic Vegetation Indicators:
7		✓ 1 - Rapid Test for Hydrophytic Vegetation
··-	0.0 = Total Cover	2 - Dominance Test is >50%
Herb Stratum (Plot size:5')		3 - Prevalence Index is ≤3.0¹
1. <i>Phalaris arundinacea</i>	100.0 Y FACW	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2		Problematic Hydrophytic Vegetation ¹ (Explain)
3		¹ Indicators of hydric soil and wetland hydrology must
4		be present, unless disturbed or problematic.
5		Definitions of Vegetation Strata:
6	- 	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7		at breast height (DBH), regardless of height.
8	- 	Sapling/shrub – Woody plants less than 3 in. DBH
9		and greater than or equal to 3.28 ft (1 m) tall.
10		Herb – All herbaceous (non-woody) plants, regardless
11		of size, and woody plants less than 3.28 ft tall.
12		Woody vines – All woody vines greater than 3.28 ft in height.
	100.0 = Total Cover	neight.
Woody Vine Stratum (Plot size:)		
1		
2		
3		Hydrophytic
4	- —— —— ——	
	= Total Cover	1.000 <u>,</u> 1.00 <u></u>
3	= Total Cover sheet.)	Hydrophytic Vegetation Present? Yes <u>√</u> No

SOIL Sampling Point: wasc006e_w

	ription: (Describe to	the depth				or confirm	the absence of inc	dicators.)
Depth	Matrix			x Features		. 2	- .	B
(inches)	Color (moist)	% 	Color (moist)	%	Type ¹	_Loc ²	Texture	Remarks
¹Type: C=Co	oncentration, D=Deple	etion, RM=R	educed Matrix, MS	S=Masked	Sand Gra	ains.	² Location: PL=	Pore Lining, M=Matrix.
Hydric Soil Histosol Histic Ep Black Hi Hydroge Stratified Depleted Thick Da Sandy M Sandy R Stripped Dark Su Restrictive I	Indicators: (A1) pipedon (A2)	(A11)	_ Polyvalue Belov	v Surface ce (S9) (L dineral (F1 Matrix (F2 (F3) rface (F6) Surface (F ions (F8)	(S8) (LRF LRR R, MI I) (LRR K I)	RRA 149B) L)	Indicators for P 2 cm Muck (Coast Prairie 5 cm Mucky Dark Surface Polyvalue Be Thin Dark St Iron-Mangar Piedmont Fle Mesic Spodi Red Parent I Very Shallov Other (Explain or problematic.	roblematic Hydric Soils ³ : A10) (LRR K, L, MLRA 149B) Per Redox (A16) (LRR K, L, R) Peat or Peat (S3) (LRR K, L, R) Pelow Surface (S8) (LRR K, L) Pelow Surface (S8) (LRR K, L) Per Masses (F12) (LRR K, L) Per Masses (F12) (LRR K, L, R) Per Masses (F19) (MLRA 149B) Per Material (F21) Per Material (
	evaluated due hic position an				utilities	s. Soils	are assumed	hydric based on



wasc006e_w_N



wasc006e_w_S

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project	Evaluator(s): BRG/JSW		
File #: wasc006	Date of visit(s): 09/11/2019		
Location: PLSS: <u>046N-004W-07</u>	Ecological Landsca Superior Coastal Plain	ape:	
Lat: 46.474594 Long: -90.907399	Watershed: LS10 White River		
County: Ashland Town/City/Village: White River town			
SITE DESCRIPTION			
Soils: Mapped Type(s):	WWI Class:		
713B, Kellogg-Allendale-Ashwabay complex, 2 to 6 percent slopes Field Verified:	Wetland Type(s): PEM - fresh wet meadow		
Soils were not sampled due to their location.	Wetland Size: 0.01	Wetland Area Impacted 0.01	
	Vegetation: Plant Community D	Description(s):	
Hydrology: The hydrologic regime is saturated, with recharge hydrology. The wetland is a ditch feature that receives non-point runoff from the associated paved road.		a fresh wet meadow perennial mat of Phalaris	

SITE MAP		

SECTION 1: Functional Value Assessment

	SECTION 1: Functional Value Assessment								
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty						
1	Ζ	Ν	Used for recreation (hunting, birding, hiking, etc.). List:						
2	N	N	Used for educational or scientific purposes						
3	Υ	Υ	Visually or physically accessible to public						
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation						
			In or adjacent to RED FLAG areas						
5	N	N	List:						
6	N	N	Supports or provides habitat for endangered, threatened or special concern species						
7	- 11	IN	In or adjacent to archaeological or cultural resource site						
WH			Wildlife Habitat						
1	N	N	Wetland and contiguous habitat >10 acres						
2	N	N	3 or more strata present (>10% cover)						
3			Within or adjacent to habitat corridor or established wildlife habitat area						
4	N	N							
	N	N	100 m buffer – natural land cover ≥50%(south) 75% (north) intact						
5	N	N	Occurs in a Joint Venture priority township						
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)						
7	N	N	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other						
			plans						
8	N	N	Part of a large habitat block that supports area sensitive species						
9	N	N	Ephemeral pond with water present > 45 days						
10	N	N	Standing water provides habitat for amphibians and aquatic invertebrates						
11	N	N	Seasonally exposed mudflats present						
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)						
FA			Fish and Aquatic Life Habitat						
1	Ν	N	Wetland is connected or contiguous with perennial stream or lake						
2	N	N	Standing water provides habitat for amphibians and aquatic invertebrates						
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system						
4	N	Y	Vegetation is inundated in spring						
SP			Shoreline Protection						
1	NA	NA	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable						
			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating						
2	NA	NA	water levels or high flows – if no, not applicable						
3	NA	NA	Densely rooted emergent or woody vegetation						
ST	11/7	TVA	Storm and Floodwater Storage						
1	N	N	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream						
2	N	N	Water flow through wetland is NOT channelized						
3	N	N	Dense, persistent vegetation						
4			Evidence of flashy hydrology						
\vdash	N	N	Point or non-point source inflow						
5	N	N							
6	N	N	Impervious surfaces cover >10% of land surface within the watershed						
7	N	N	Within a watershed with ≤10% wetland						
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event						
WQ			Water Quality Protection						
1	N	N	Provides substantial storage of storm and floodwater based on previous section						
2	N	N	Basin wetland or constricted outlet						
3	N	N	Water flow through wetland is NOT channelized						
4	N	N	Vegetated wetland associated with a lake or stream						
5	N	N	Dense, persistent vegetation						
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth						
7	Ν	N	Stormwater or surface water from agricultural land is major hydrology source						
8	N	N	Discharge to surface water						
9	N	N	Natural land cover in 100m buffer area < 50%						
GW			Groundwater Processes						
1	N	N	Springs, seeps or indicators of groundwater present						
2			Location near a groundwater divide or a headwater wetland						
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs						
	N	N							
5	N	N	Wetland soils are organic						
1 5 1	N	N	Wetland is within a wellhead protection area						

		nments (Refer to Section 1 numbers)
WH-7: the fast and he periods.	eavy road traffic is p	rohibitive to bird nesting. FA-4: the wetland holds water after rain events, and due to soil compaction this may keep vegetation inundated during rainy
Wi	Idlife Habita	at and Species Observation (including amphibians and reptiles)
Lis	st: direct of	oservation, tracks, scat, other sign; type of habitat: nesting, migratory,
wii	nter, etc.	
Observed	Potential	Species/Habitat/Comments
Observed	Potential	Species/nabita/comments
	,	
		atic Life Habitat and Species Observations oservation, spawning, nursery areas, etc.
LIS	st. unector	oservation, other sign, type or habitat. Hesting, spawning, hursery areas, etc.
Observed	Potential	Species/Habitat

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	inity intogrity (on olo)			
	Low	Medium	High	Exceptional
Invasive species cover	> 50% 🗸	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Abundance)
Phalaris arundinacea			PEM	Common

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The wetland is dominated by Phalaris arundinacea.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
			Н	С	Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
	Х		M	С	Agriculture – hay
					Agriculture – pasture
	Х		Н	С	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
				0	Removal of herbaceous stratum – mowing,
X	X		Н	С	grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
Х	Х		Н	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):
					, ,

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The wetland is a low quality feature impacted heavily by its location and invasive species prevalence.

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity	√				
Human Use Values	√				
Wildlife Habitat	√				
Fish and Aquatic Life Habitat	√				
Shoreline Protection					1
Flood and Stormwater Storage		/			
Water Quality Protection		√			
Groundwater Processes	√				

FUNCTION	RATIONALE
Floristic Integrity	Invasive species dominance
Human Use Values	No discernible uses
Wildlife Habitat	No quality habitats
Fish and Aquatic Life Habitat	Insufficient duration of standing water
Shoreline Protection	N/A
Flood and Stormwater Storage	Stores runoff from paved road after rain events
Water Quality Protection	Stores water for groundwater recharge, heavy vegetation cover
Groundwater Processes	No processes other than groundwater recharge

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	nland	Sampling Date: <u>2019-09-11</u>
Applicant/Owner: Enbridge			
Investigator(s): SAM/JSW			
Landform (hillslope, terrace, etc.): Rise			
Subregion (LRR or MLRA): Northcentral Forests Lat:			
Soil Map Unit Name: Kellogg-Allendale-Ashwa			
Are climatic / hydrologic conditions on the site typical for			
Are Vegetation, Soil, or Hydrology			
Are Vegetation, Soil, or Hydrology			
SUMMARY OF FINDINGS – Attach site ma			
	1	<u>`</u>	Important reatures, etc.
	No Is the Sam	-	No <u>√</u>
	_ INO <u></u>		
Wetland Hydrology Present? Yes Remarks: (Explain alternative procedures here or in a		onal Wetland Site ID:	
Roadside area. Particular area include	des spoils from the ass	ociated ditch feature.	. This upland point is
shared with wetland feature wasc006			' '
LIVEROL COV			
HYDROLOGY Westernd Hydrology Indicators:		Coordon, Indiant	(ini of two required)
Wetland Hydrology Indicators:	0 d (1, A	•	ors (minimum of two required)
Primary Indicators (minimum of one is required; check			
	Water-Stained Leaves (B9)	Drainage Patte	
	Aquatic Fauna (B13)	Moss Trim Line	
	Marl Deposits (B15) Hydrogen Sulfide Odor (C1)		/ater Table (C2)
	Oxidized Rhizospheres on Living		ible on Aerial Imagery (C9)
	Oxidized Knizospheres on Living Presence of Reduced Iron (C4)		=
	Recent Iron Reduction in Tilled Sc	Stunted or Street Stree	
	Thin Muck Surface (C7)	Shallow Aquita	
	Other (Explain in Remarks)	Shallow Aquita	
Sparsely Vegetated Concave Surface (B8)	Other (Explain in Nemarks)	Microtopograp	
Field Observations:		FAC-Neutiai i	est (D5)
	Depth (inches):		
	Depth (inches):		
	Depth (inches):	Wetland Hydrology Present	? Yes No <u>√</u>
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring w	ell, aerial photos, previous inspec	tions), if available:	
Remarks:			
No primary or secondary indicators of	of hydrology observed.		

VEGETATION – Use scientific names of plants.

	Absolute	Dominan	t Indicator	Dominance Test worksheet:	
Tree Stratum (Plot size: 30')		Species?	Status	Number of Dominant Species	
1				That Are OBL, FACW, or FAC:(A)	
2				Total Number of Dominant	
3				Species Across All Strata: 3.0 (B)	
4				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 66.6666666666666 (A/B)	
6				Prevalence Index worksheet:	
7				Total % Cover of: Multiply by:	
	0.0	= Total Co	ver	OBL species x 1 =0.0	
Sapling/Shrub Stratum (Plot size:)				FACW species20.0 x 2 =40.0	
1				FAC species10.0 x 3 =30.0	
2.				FACU species	
3.				UPL species <u>12.0</u> x 5 = <u>60.0</u>	
4				Column Totals: <u>112.0</u> (A) <u>410.0</u> (B)	
5				Prevalence Index = B/A =3.7	
6.				Hydrophytic Vegetation Indicators:	
7				1 - Rapid Test for Hydrophytic Vegetation	
		= Total Co	ver	2 - Dominance Test is >50%	
Herb Stratum (Plot size:5')				3 - Prevalence Index is ≤3.0¹	
1. Lotus corniculatus	50.0	Υ	FACU	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
2. Agrostis gigantea		Υ	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)	
3. Phalaris arundinacea		Y	FACW		
4. Populus tremuloides		N	FAC	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
5. Poa pratensis	5.0	N	FACU		
6. Rubus idaeus		N	FAC	Definitions of Vegetation Strata:	
7. <u>Crataegus sp.</u>		N	NI	Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
8. <u>Phleum pratense</u>		N	FACU	Sapling/shrub – Woody plants less than 3 in. DBH	
9. Cichorium intybus	FΛ	N	FACU	and greater than or equal to 3.28 ft (1 m) tall.	
10. <u>Agrimonia striata</u>	5.0	N	FACU	Herb – All herbaceous (non-woody) plants, regardless	
11. <u>Daucus carota</u>	5.0	N	UPL	of size, and woody plants less than 3.28 ft tall.	
12. <u>Hieracium umbellata</u>	2.0	N	NI	Woody vines – All woody vines greater than 3.28 ft in	
	112.0	= Total Co	ver	height.	
Woody Vine Stratum (Plot size:)					
1					
2					
3				Hydrophytic	
4				Vegetation	
		= Total Co	ver	Present? Yes No	
Remarks: (Include photo numbers here or on a separate					
Upland area dominated by typical erosi	on cont	rol spec	cies and	other ruderal species.	

Sampling Point: wasc005_u

SOIL Sampling Point: wasc005_u

Profile Description: (Describe to	the depth ne				or confirm	the absence of in	ndicators.)
Depth Matrix	0/		K Features		1.52	Tandina	Daniede
(inches) Color (moist)	% C	olor (moist)	% 	Type ¹	Loc ²	Texture	Remarks
¹ Type: C=Concentration, D=Deplet	ion, RM=Redu	uced Matrix, MS	=Masked	Sand Gra	ins.		=Pore Lining, M=Matrix.
Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, ML) Indicators of hydrophytic vegetation Restrictive Layer (if observed): Type: Depth (inches):	I I A11) I I F RA 149B)	Polyvalue Below MLRA 149B) Thin Dark Surfar Loamy Mucky M Loamy Gleyed M Depleted Matrix Redox Dark Sur Depleted Dark S Redox Depressi	ce (S9) (L flineral (F1 Matrix (F2) (F3) face (F6) Surface (F ons (F8)	RR R, ML) (LRR K,	.RA 149B) L)	2 cm Muck Coast Prair 5 cm Mucky Dark Surface Polyvalue E Thin Dark S Iron-Manga Piedmont F Mesic Spoot Red Parent Very Shallo Other (Expl	Problematic Hydric Soils ³ : (A10) (LRR K, L, MLRA 149B) ie Redox (A16) (LRR K, L, R) y Peat or Peat (S3) (LRR K, L, R) ce (S7) (LRR K, L) Below Surface (S8) (LRR K, L) Surface (S9) (LRR K, L) inese Masses (F12) (LRR K, L, R) cloodplain Soils (F19) (MLRA 149B) dic (TA6) (MLRA 144A, 145, 149B) Material (F21) by Dark Surface (TF12) ain in Remarks)
Remarks: Soils not evaluated due topography and dominal	to the po		ouried	utilities	s. Soils	are assumed	d non-hydric based on



wasc005_u_S



wasc005_u_W

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City.	/County: Ashland Sampling Date: 2019-10-08
•	State: WI Sampling Point: wase073f_w
_	tion, Township, Range: <u>046N-004W-08</u>
	elief (concave, convex, none): Concave Slope (%): 0-2%
	Long: -90.899285 Datum: WGS84
	Slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year?	•
	urbed? Are "Normal Circumstances" present? Yes ✓ No
Are Vegetation, Soil, or Hydrology naturally probler	
SUMMARY OF FINDINGS – Attach site map showing sa	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes✓ No	Is the Sampled Area
Hydric Soil Present? Yes _ ✓ No	within a Wetland? Yes No
Wetland Hydrology Present? Yes No	If yes, optional Wetland Site ID:
Remarks: (Explain alternative procedures here or in a separate report.)	
Forested wetland with mixed canopy vegetation a	nd abundant nummocks. Surrounding land is
mesic hardwood forest.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained Leav	ves (B9) Drainage Patterns (B10)
✓ High Water Table (A2)	3) Moss Trim Lines (B16)
✓ Saturation (A3) Marl Deposits (B15)	Dry-Season Water Table (C2)
Water Marks (B1) Hydrogen Sulfide C	
	eres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Presence of Reduce	
Algal Mat or Crust (B4) Recent Iron Reduct	
Iron Deposits (B5) Thin Muck Surface	
Inundation Visible on Aerial Imagery (B7) Other (Explain in Re	
Sparsely Vegetated Concave Surface (B8)	✓ FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes No _ ✓ _ Depth (inches):	
Water Table Present? Yes Yes No Depth (inches): Depth (inches): Output Depth (inches	
Saturation Present? Yes \checkmark No Depth (inches): 0	
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, p	revious inspections), if available:
Remarks:	
Seasonally saturated.	

VEGETATION – Use scientific names of plants.

bsolute			Sampling Point: wase073f_w
	Dominant Species?		Dominance Test worksheet:
	Y		Number of Dominant Species That Are OBL, FACW, or FAC:4 (A)
	Y		
			Total Number of Dominant Species Across All Strata:4 (B)
			Percent of Dominant Species
			That Are OBL, FACW, or FAC: 100.00 (A/B)
			Dunivalence In day wantschoots
			Prevalence Index worksheet:
			OBL species15 x 1 =15
			FACW species9 x 2 =18
5	Υ	FACW	FAC species 100 x 3 = 300
			FACU species3 x 4 =12
			UPL species0 x 5 =0
			Column Totals: <u>127</u> (A) <u>345</u> (B)
			Prevalence Index = B/A = 2.72
			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
_			✓ 2 - Dominance Test is >50%
9_:	= Total Cov	/er	3 - Prevalence Index is ≤3.0¹
45	V	ODI	4 - Morphological Adaptations ¹ (Provide supporting
			data in Remarks or on a separate sheet)
			Problematic Hydrophytic Vegetation ¹ (Explain)
			¹ Indicators of hydric soil and wetland hydrology must
			be present, unless disturbed or problematic.
			Definitions of Vegetation Strata:
			Tree – Woody plants 3 in. (7.6 cm) or more in diameter
			at breast height (DBH), regardless of height.
			Sapling/shrub – Woody plants less than 3 in. DBH
			and greater than or equal to 3.28 ft (1 m) tall.
			Herb – All herbaceous (non-woody) plants, regardless
			of size, and woody plants less than 3.28 ft tall.
			Woody vines – All woody vines greater than 3.28 ft in height.
28_	= Total Cov	/er	neight.
			Hydrophytic
			Vegetation
			Present? Yes ✓ No
	90 5 2 2 9 15 5 5 2 1	90 = Total Cov 5	2 N FACU 9 = Total Cover 15 Y OBL 5 N FAC 5 N FAC 2 N FACW 1 N FACU

SOIL Sampling Point: wase073f_w

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth							. 2	_	
(inches) 0-5	Color (moist) 10YR 3/1	 85	Color (n 7.5YR		<u>%</u> 15	Type'	Loc ²	Texture SIL	Remarks Prominent raday concentrations
5-10	7.5YR 5/3		7.5YR		10		IVI	SCL	Prominent redox concentrations Prominent redox concentrations
5-10 5-10	10YR 3/1	10	7.51K	5/6				SCL	Fromment redox concentrations
	7.5YR 5/3		7.5YR	5/8	30		M	SCL	
10-10	7.511K 3/3		7.011C	5/0				_OOL	
-	· 				-				
	Concentration, D=Depl	etion, RM	I=Reduced N	Matrix, MS	S=Masked	Sand Gr	ains.	² Locatio	n: PL=Pore Lining, M=Matrix.
Hydric Soil Histoso	Indicators:		Polyva	lue Belov	v Surface	(S8) (I D I	D D		s for Problematic Hydric Soils ³ : Muck (A10) (LRR K, L, MLRA 149B)
Histic E	pipedon (A2)		MLF	RA 149B)				Coast	Prairie Redox (A16) (LRR K, L, R)
	listic (A3) en Sulfide (A4)				ce (S9) (I ⁄lineral (F		LRA 149B)		Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L)
Stratifie	d Layers (A5)		Loamy	Gleyed I	Matrix (F2		·, –,	Polyv	alue Below Surface (S8) (LRR K, L)
	ed Below Dark Surface Park Surface (A12)	(A11)		ed Matrix Dark Sui	: (F3) rface (F6)				Dark Surface (S9) (LRR K, L) Manganese Masses (F12) (LRR K, L, R)
	Mucky Mineral (S1)				Surface (F	7)			nont Floodplain Soils (F19) (MLRA 149B)
-	Gleyed Matrix (S4) Redox (S5)		Redox	Depress	ions (F8)				Spodic (TA6) (MLRA 144A, 145, 149B) Parent Material (F21)
-	d Matrix (S6)								Shallow Dark Surface (TF12)
Dark Su	urface (S7) (LRR R, M	LRA 149	B)					Other	(Explain in Remarks)
	of hydrophytic vegetati	on and w	etland hydro	logy mus	t be prese	ent, unles	s disturbed	or problemati	c.
Type:	Layer (if observed):								
	nches):							Hydric Soi	I Present? Yes No
Remarks:									
Loam wi	th redox throug	ghout.							



wase073f_w_N



wase073f_w_S

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project	Evaluator(s): MAL/OTG/ARK		
File #: wase073	Date of visit(s): 10/08/2019		
Location: PLSS: <u>046N-004W-08</u>	Ecological Landsca Superior Coastal Plain	ape:	
Lat: 46.47411 Long: -90.899412	Watershed: LS10, White River		
County: Ashland Town/City/Village: White River town			
SITE DESCRIPTION			
Soils:	WWI Class:		
Mapped Type(s):	T3/5Kr		
280F, 580B, Odanah silt loam, 25 to 60 percent slopes, Sanborg-Badriver complex, 0 to 6 percent slopes	Wetland Type(s): PFO - Hardwood Swamp		
Field Verified:			
Series not verified. The soils consist of a silt loam over a sandy clay loam.	Wetland Size: 0.84	Wetland Area Impacted 0.84	
, ,	Vegetation: Plant Community D	Description(s):	
Hydrology:	Moss hummocks are present throughout. The		
The feature appears to be seasonally saturated.	herb layer is sparsely vegetated with cover of		
		terrupted fern. Tree cover	
		palsam fir and red maple.	

SITE MAP		

SECTION 1: Functional Value Assessment

			Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	Ν	N	Used for educational or scientific purposes
3	Ν	N	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
_			In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7			In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	Y	Y	100 m buffer – natural land cover >50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	N	Y	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
	IN	ı	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
7	Υ	Υ	plans
8	NI	N	Part of a large habitat block that supports area sensitive species
9	N		Ephemeral pond with water present > 45 days
10	N	N	Standing water provides habitat for amphibians and aquatic invertebrates
-	Y	Y	
11	N	Y	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	Υ	Y	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	N	Vegetation is inundated in spring
SP			Shoreline Protection
1	N	N	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2	N	N	Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
			water levels or high flows – if no, not applicable
3	N	N	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Y	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	N	N	Water flow through wetland is NOT channelized
3	N	N	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	N	N	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with <10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	Ν	N	Provides substantial storage of storm and floodwater based on previous section
2	Ν	N	Basin wetland or constricted outlet
3	Ν	N	Water flow through wetland is NOT channelized
4	N	N	Vegetated wetland associated with a lake or stream
5	Ν	N	Dense, persistent vegetation
6	Ν	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW	.,		Groundwater Processes
1	Υ	Υ	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland Wetland remains naturated for an extended time period with no additional water inputs
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs
<u>4</u> 5	N	N	Wetland soils are organic
	N	N	Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers) WH-10, FA-2: The feature has minimal standing water at the time of survey and likely contains standing water within a sufficient time frame to support some aquatic invertebrates and amphibians specifically early in the growing season. WQ-3, ST-2: The wetland has a clear channel running through the center. Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments cover capable of supporting arboreal species. Seasonal standing water likely provides habita Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4/	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Acer rubrum			PFO	Common
Abies balsamea			PFO	Common
llex verticillata			PFO	Rare
Fraxinus nigra			PFO	Rare
Quercus rubra			PFO	Rare
Carex crinita			PFO	Uncommon
Trientalis borealis			PFO	Rare
Dryopteris intermedia			PFO	Rare
Onoclea sensibilis			PFO	Rare
Maianthemum canadense			PFO	Rare

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

Moderate floristic integrity with no invasive cover. The feature appears to be degraded somewhat judging from the herbaceous layer.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
•					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
	V		1	С	Removal of herbaceous stratum – mowing,
	X		L	C	grading, earthworms, etc.
Х	Х		М	С	Removal of tree or shrub strata – logging,
^	^		IVI	C	unprescribed fire
	Χ		L	С	Human trails – unpaved
					Human trails – paved
	Χ		L	С	Removal of large woody debris
Χ	Χ		L	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The feature has been logged historically and the margins seem influenced by earthworm activity.							

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION	SIGNIFICANCE								
	Low	Medium	High	Exceptional	NA				
Floristic Integrity		✓							
Human Use Values	√								
Wildlife Habitat		√							
Fish and Aquatic Life Habitat	√								
Shoreline Protection					√				
Flood and Stormwater Storage	√								
Water Quality Protection	√								
Groundwater Processes		√							

FUNCTION	RATIONALE
Floristic Integrity	The feature is sparsely vegetated with limited overall diversity.
Human Use Values	The feature is not accessible to the public or used for recreation or research.
Wildlife Habitat	The wetland is small, sparsely vegetated, and provides standing water seasonally.
Fish and Aquatic Life Habitat	The wetland provides standing water seasonally.
Shoreline Protection	N/A
Flood and Stormwater Storage	There is a prominent channel running through the center of the feature.
Water Quality Protection	The feature is sparsely vegetated and not associated with a lake or stream.
Groundwater Processes	Feature appears to be influenced by precipitation and runoff primarily.

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/Coun	ty: Ashland	Sar	mpling Date: 2019-10-08
Applicant/Owner: Enbridge				
Investigator(s): BRG/JSW				· -
Landform (hillslope, terrace, etc.): Talf				
Subregion (LRR or MLRA): Northcentral Forests La				
Soil Map Unit Name: Sanborg-Badriver cor	•	•		
Are climatic / hydrologic conditions on the site typical				
Are Vegetation, Soil, or Hydrology				
Are Vegetation, Soil, or Hydrology	naturally problematic?	(If needed, explain	ain any answers in	Remarks.)
SUMMARY OF FINDINGS - Attach site I	map showing sampli	ng point locations	, transects, im	portant features, etc.
Hydrophytic Vegetation Present? Yes✓	NoIs	the Sampled Area		
		thin a Wetland?	Yes	No <u>√</u>
Wetland Hydrology Present? Yes		es, optional Wetland Sit	e ID:	
Remarks: (Explain alternative procedures here or in The upland is located in a somewhat	n a separate report.)			
HYDROLOGY Wetland Hydrology Indicators:		20	andary Indicators	(minimum of two required)
Wetland Hydrology Indicators:	alcall that apply)		-	(minimum of two required)
Primary Indicators (minimum of one is required; che			Surface Soil Crac	
	Water-Stained Leaves (B Aquatic Fauna (B13)	<u> </u>	Drainage Patterns Moss Trim Lines	
	_ Marl Deposits (B15)		Dry-Season Wate	
	_ Hydrogen Sulfide Odor (C	C1)	Crayfish Burrows	
i i	Oxidized Rhizospheres o			e on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron	n (C4)	Stunted or Stress	sed Plants (D1)
	Recent Iron Reduction in	Tilled Soils (C6)	Geomorphic Posi	
	_ Thin Muck Surface (C7)	_	Shallow Aquitard	
	Other (Explain in Remark	<u></u>	Microtopographic FAC-Neutral Test	
Sparsely Vegetated Concave Surface (B8) Field Observations:			rac-neutral rest	I (D3)
	Depth (inches):			
	Depth (inches):			
	Depth (inches):		ology Present?	Yes No <u>√</u>
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring	all assist whates was in			
Describe Recorded Data (stream gauge, monitoring	well, aeriai priotos, previou	is irispections), ii avaliab	ie.	
Remarks:	of watland hydral	ogy wore observ	rod	
No primary or secondary indicators	or welland hydron	ogy were observ	eu.	

VEGETATION – Use scientific names of plants.

	Absolute	Dominan	t Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30')		Species?		Number of Dominant Species
1. Abies balsamea	_30.0	Y	<u>FAC</u>	That Are OBL, FACW, or FAC: 4 (A)
2. Acer rubrum	30.0	Y	FAC	Total Number of Dominant
3. Quercus rubra	20.0	Y	FACU	Species Across All Strata:
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 80.00 (A/B)
6.				
7				Prevalence Index worksheet:
		= Total Co		
Configuration (Charles Charles (District)	00.0	= 10(a) 00	VEI	FACW species
Sapling/Shrub Stratum (Plot size: 15')	10.0	V	E40	FAC species x 3 = 225
1. <u>Abies balsamea</u>				FACU species25 x 4 =100
2				UPL species
3				Column Totals: 100 (A) 325 (B)
4			 	
5				Prevalence Index = B/A = 3.25
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	10	= Total Co	ver	∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size:)				3 - Prevalence Index is ≤3.0¹
1. Trientalis borealis	5.0	<u>Y</u>	FAC	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Pteridium aquilinum	2.0	N	<u>FACU</u>	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Maianthemum canadense	2.0	N	<u>FACU</u>	1
4. Carex gracillima	1.0	N	<u>FACU</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10			-	Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
12.		= Total Co	vor	height.
Manda Vina Charles (Diet sina)	10.0	= 10(a) 00	vei	
Woody Vine Stratum (Plot size: 30')				
1				
2				
3				Hydrophytic Vegetation
4			·	Present? Yes No
		= Total Co	ver	
Remarks: (Include photo numbers here or on a separate The upland is a dry-mesic forest domin somewhat wormed.		Abies t	oalsame	a and Acer rubrum. The area is

Sampling Point: wase073_u

SOIL Sampling Point: wase073_u

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth	Matrix	0/		x Features		1 2 2	Tandona	Remarks
(inches)	7.5YR 3/3	100	Color (moist)	<u> %</u>	Type'	Loc ²	VFSL	Remarks
7-12	7.5YR 5/2						VFSL	_
	7.5YR 4/6						VFSL	
12 20	7.0111 1/0	100		·			<u> </u>	
¹ Type: C=C Hydric Soil	oncentration, D=Depl	etion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.		Pore Lining, M=Matrix. oblematic Hydric Soils ³ :
Histoso			Polyvalue Belov	w Surface	(S8) (LRF	RR,		A10) (LRR K, L, MLRA 149B)
·	pipedon (A2) istic (A3)		MLRA 149B) Thin Dark Surfa		RRR MI	RA 149R)		Redox (A16) (LRR K, L, R) Peat or Peat (S3) (LRR K, L, R)
Hydroge	en Sulfide (A4)		Loamy Mucky N	/lineral (F	1) (LRR K	,	Dark Surface	(S7) (LRR K, L)
	d Layers (A5) d Below Dark Surface	. (Δ11)	Loamy Gleyed I Depleted Matrix)			low Surface (S8) (LRR K, L) rface (S9) (LRR K, L)
	ark Surface (A12)		Redox Dark Su					ese Masses (F12) (LRR K, L, R)
-	Mucky Mineral (S1)		Depleted Dark S		7)			odplain Soils (F19) (MLRA 149B)
-	Gleyed Matrix (S4) Redox (S5)		Redox Depress	ions (F8)			Mesic Spodic	: (TA6) (MLRA 144A, 145, 149B) Material (F21)
Stripped	d Matrix (S6) urface (S7) (LRR R, N	II RA 149R	1				Very Shallow	Dark Surface (TF12) n in Remarks)
	f hydrophytic vegetat Layer (if observed):		land hydrology mus	st be prese	ent, uniess	disturbed	or problematic.	
Type:								
Depth (in	ches):						Hydric Soil Prese	nt? Yes No <u>√</u>
Remarks:	c soil indicator	s were	observed So	ils are	a verv	fine sa	ndy loam thro	ughout the profile.
1.10 11, 411		0 110.0	0.000.100.		a 10. j		ay ioaiii aiio	agricut are premer



wase073_u_E



wase073_u_N